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Educational News and Editorial Comment

HERE AND THERE AMONG THE SCHOOLS

An experiment in continued learning.—Blacksville, a rural village of about five hundred people, is located in the western end of Monongalia County, West Virginia. In the schools of this village is being carried forward, under the general supervision of County Superintendent Floyd B. Cox, an interesting experiment in continued learning. As Mr. Cox describes the plan of school work, children may enrol in the nursery-kindergarten school between the ages of one year and six months and five years, six months. Here they learn health habits and receive their first lessons in the great job of living with others. A well-planned diet fits into their daily schedule of work, play, and rest. The nursery-kindergarten school is used as a means of providing parent education. Mothers meet with the teachers, and together they study and observe the problems of child care.

Upon reaching six years of age, the children, provided their social maturation is average or above, pass into Grade I of a six-year elementary school, where an effort is made to bring them to feel themselves a part of the entire school system. At times they sponsor

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and care for the nursery-kindergarten children; at times they work and play with pupils in the high school.

From Grade VI pupils are advanced to the junior high school, which is joined to the senior high school in a six-year plan. The curriculum of the junior high school is exploratory in nature. The content subjects are not lost sight of, but an opportunity is given for a broad survey in the fields of art, music, home economics, manual arts, camp arts, metal arts, and nature-study. A rich program of co-curricular activities is provided. In the six-year high school no pupil fails. Each is urged to work to within a reasonable percentage of his total capacity, and a minimum of work must be satisfactorily completed by all pupils. The program is so arranged that the able and ambitious pupil can complete the work of the high school in less than the usual time.

After leaving high school, many Blacksville graduates fail to enter college or secure regular jobs. This situation led to the establishment of an adult department in the school system. Last year, Mr. Cox reports, this department included parent education through the medium of the nursery-kindergarten school, evening classes in agricultural problems for farmers, weekly public forums sponsored by the federal government, evening library privileges at the school for adults, community singing for adults, and evening classes in ceramic art.

The pottery class was organized as a part-time class under the Smith-Hughes Act. Mr. Cox comments as follows on the work of this class and on the work of the school as a whole:

> In one sense our class is rather unique when compared with others of the state. Our plan is to embrace only such projects as will utilize, as far as is expedient, the raw materials found in the local community. With an abundance of excellent clays in this vicinity, our work has grown into activities which draw from other sections only the materials used in grinding and mixing the various glazes. Furthermore, one of our local teachers, Mr. Charles Tennant, who is a native of Clay district, was selected to design the pottery-arts shop and to instruct the pottery class. There is little, therefore, about the entire project that is not local. Students taking the pottery course learn the complete process. Their work takes them through the following steps: (1) the digging of the clay from the earth; (2) preparing the clay (little of our clay needs screening or straining but is used as it is taken from the vein); (3) the designing of shapes; (4) the building or throwing of shapes, both of which are hand operations;

(5) applying handles or spouts; (6) firing the bisque ware; (7) regulating kiln heats and drafts; (8) computing and grinding glazes; (9) glazing and firing the glost kiln; and (10) caring for the various materials.

Some excellent talent has also been discovered in modeling. The ability acquired by some in the class is worthy of commercialization for supplementing the regular income. Dean L. Ricketts, of Charleston, West Virginia, who visited our class said, "The entire staff of school officials in Monongalia County deserves the congratulations and support of all who believe in promoting other types of work that will rehabilitate people for private employment."

To date we have had more than three hundred visitors in our plant from places as distant as California, New York, and Texas.

Through such a continuous program of education as is being attempted at Blacksville, new worlds for many people lie yet to be discovered if only we "sail on, sail on and on."

In the successful operation of the school, I am deeply indebted to Mr. Hugh Shafer, the able and efficient principal. With his vision of education for the new age, his sound educational philosophy, and his ability to co-ordinate the preschool, elementary, high-school, and adult-education groups into a growing organism for demonstrating that education is a continuous process, he has been of inestimable value to me in working out the foregoing plan.

Informal pupil-home reports.—We continue to receive examples of the new-type report cards which many school systems are now adopting. One of the most striking of these has been supplied by Harold R. Maurer, superintendent of Garfield Heights City Schools, Cleveland, Ohio. This report form has attracted widespread attention; since its adoption Mr. Maurer has received numerous inquiries from school officials and teachers in all parts of the United States. A distinctive feature of this reporting practice is the clear and concise explanation to teachers of the kind of report that is desired. In the explanation the general features of the informal pupil-home report are outlined as follows:

1. The elimination of the old class competitive grading system. We believe that the child should be encouraged to compete against his own record. This sets up individual standards which are fair to all regardless of ability.

2. Special attention is called to the child's social behavior. Teachers should make adequate use of this provision.

3. Space is provided for your comments on any activities in which the child may have participated.

4. Under each subject, space is provided for remarks concerning that subject.

5. Space is provided for a health report.

6. Provision has been made for any remarks the parents may wish to make in writing to the teacher concerning the report.

7. No space has been provided to indicate tardiness. Frequently, tardiness is the fault of the parents, not that of the child. In every case of excessive tardiness, the teacher should include a report of the same in the space for "Comments" under "Attendance."

8. Teachers should use every available opportunity to explain this type of report to the parent.

Each of the foregoing general features is elaborated in detail. In passing judgment on the child's pattern of social behavior, teachers are asked to consider such desirable social traits as the following.

a) How well does he work and play with others?
b) Does he actively engage in social contacts?
c) Is he willing to take a stand for his own rights?
d) Does he defend others in their rights?
e) Is he sought by others?
f) How does he respond to praise?
g) Is he thoughtful of others?
h) Is he even-tempered?
i) What is his attitude toward authority?
j) Is he too quiet or too boisterous?
k) Does he have self-confidence?
l) Is he given to special fears?
m) Is he a good leader or does he have a tendency to domineer?
n) Is he willing to wait his turn?
o) Is he a good listener?
p) Does he respect others' property?
q) Is he sensitive to the needs and feelings of others?
r) Does he act too impulsively or is he inclined to think before acting?
s) Is he honest?
t) Is he clean of speech?
u) Can he accept defeat?
v) Is he reliable?
w) Is he polite in speech and action?
x) Is he destructive?
y) Is he overcritical of others?
z) Does he seem to worry?
a-2) Is he usually cheerful?
b-2) Does he make friends easily?
c-2) Can he adapt himself to new situations?

The Saginaw curriculum program.—From Superintendent Chester F. Miller, of Saginaw, Michigan, we have received an account of the steps being taken to revise the curriculum of the schools of that city.

A distinctive feature of the program is the expert assistance which is being secured from outside the city system. Dr. O. I. Frederick, of the University of Mississippi, is in general charge of the program. Dr. Frederick served for two years as assistant specialist in school organization on the National Survey of Secondary Education, and for the past three years he has been active in the state-wide curriculum program in Mississippi. Twelve members of the faculty of the University of Michigan are also giving some assistance in carrying out the program. Each of these will deliver a lecture and hold a conference on a vital phase of curriculum development. Each of the five hundred members of the faculty of the Saginaw schools is devoting two hours a week to study of curriculum problems. For that purpose instructional materials are being set up in a laboratory, which is equipped with some three hundred professional books, recent issues of thirty or more educational periodicals, a collection of selected courses of study, and a thousand outstanding recent schoolbooks.

A program for keeping the public informed about the work of the schools.—In order to keep parents informed with respect to the purposes and the accomplishments of the schools, Superintendent C. R. Stone, Munhall, Pennsylvania, has adopted the policy of sending home with each report card a four-page bulletin entitled the *Home Visitor*. The first number of the *Visitor* calls attention to the library facilities of the school system, to the special assembly programs which have been arranged for the year, to the program for American Education Week, and to the use that the schools are making of sound motion pictures. Parents are requested to give suggestions with respect to the work of the schools about which they would like to have information. In addition to the *Home Visitor*, Superintendent Stone is publishing for distribution a number of special pamphlets. The first of these is a directory of the school district, which gives pertinent information about all the school officials and teaching staff of the district.

Giving safety education a place in the curriculum.—It is evident that many schools throughout the country are giving increased attention to the matter of safety education. One of the best worked-out programs which has come to our attention is that of the Lincoln

School, Chisholm, Minnesota. As a part of this program the Lincoln Junior Safety Council publishes each year a mimeographed volume of some fifty pages bearing the title "Safety Sentinel." The "Sentinel" is published by the pupils; the content is well prepared; and the illustrations are both numerous and excellent.

Superintendent James H. Lawson informs us that he is introducing a program of safety education into the schools of McKeesport, Pennsylvania. At present the student council is sponsoring the program, which consists in the study in the classrooms of an approved textbook on traffic safety, use of films on traffic safety, talks by well-informed speakers, mock trials of traffic offenders, and a poster campaign.

Guidance in the conduct of community centers.—For a number of years the Board of Education in Newark, New Jersey, has been conducting recreation centers in some of the school buildings in the city. A publication entitled "Lafayette Community Center" has been sent us by the director of the center, Peter C. Fujarcyk. This bulletin describes the organization and the conduct of one of these enterprises. Attention is given to such matters as the following: "Organization Policies," "Objectives of the Recreation Program," "Facilities for Program-building," "The Advisory Council," and "The Interclub Council." School administrators elsewhere will find in this publication many helpful suggestions with respect to the organization and conduct of community centers. Inquiries should be addressed to Mr. Fujarcyk, Lafayette Street School, Newark, New Jersey.

Predicting Success in Teaching

The Department of Educational Research of the University of Toronto has published a bulletin entitled *Forecasting Teaching Ability*. The bulletin reports the results of two experiments to discover criteria for the selection of beginning teachers. The first study dealt with teaching ability in prospect. In the autumn of 1934 the entering students of Ontario College of Education were given a number of intelligence, achievement, and personality tests. A searching questionnaire was filled out by each student. Students were also interviewed individually and rated in a number of ways. None of these measures, however, proved of much value in pre-

dicting teaching success. "A student could be both intelligent and learned, yet fail egregiously as a teacher." The findings of this investigation are summarized in the following paragraphs.

1. Ability of students in teaching is not closely related to intelligence above that necessary for college graduation. In other words, if a student has sufficient intelligence to complete his university course successfully, higher intelligence does not seem to be necessarily of value in teaching.

2. Ability of students in teaching is not closely related to achievement in special subjects. Neither the comprehensive objective tests nor the specialist examinations proved to be of value in predicting teaching ability. It must not be forgotten, however, that while the correlations were all low, they were also all positive, showing that the good student is slightly more apt to succeed as a teacher than the poor student.

3. Ability in practice teaching is not measured by "personality" tests. In fact, considerable doubt exists at the present time as to what, if anything, these tests do measure. Measurement of personality traits is of no value if these traits are arbitrary and unrelated to other phases of human life.

4. The teaching averages obtained in the first term are only a fair index of the final teaching average. This may be due to greater familiarity with certain subjects not evenly distributed over the course, to changes in attitude, or to unreliability of the teaching marks.

5. Improvement during the period of training is not closely related to intelligence as measured by group tests.

6. If a student starts out well, he has a slightly better chance of improvement than if he starts poorly. This would seem to indicate that if a student has a natural aptitude for teaching, it shows up early.

7. Certain items of information as determined by a questionnaire appear to be of value in selecting successful teachers. These items have not yet been standardized, but may be used as indications of the value of certain information in selecting teachers.

8. Ratings of students based on interviews of short duration, even when conducted by a number of raters, are not sufficiently reliable to be used for prognosis. There is close agreement between the opinions of different raters, but even average ratings do not agree closely with critic teachers' marks.

9. Experienced instructors at the Ontario College of Education are unable, early in the term, to segregate effectively those who will prove successful teachers from those who will not.

10. It is easier to select the better students than it is to eliminate the poorer ones. This suggests that encouraging the attendance of the better students would be more effective than discouraging the poorer ones.

11. The averages given by critic teachers concentrate in a narrow range of six marks from 65 to 70 per cent, inclusive.

12. These marks given by the critic teachers appear to be heavily weighted

by chance, and are being investigated further. If two critic teachers judged the same lesson as worth 65 per cent and 70 per cent, respectively, this apparently close agreement would really signify a difference of opinion covering the range in marks of 150 students.

The second study undertook to discover the traits or capacities crucial to success in teaching by an examination of the records of students who had been graduated by the Ontario College of Education during the ten-year period 1921–30. These students had been rated annually by inspectors for at least five years. It was hoped that, when the ratings of success in teaching were compared with marks in high-school or college, some conclusions could be drawn with respect to means of predicting teaching success. The following paragraphs present a summary of the findings and conclusions of this study.

1. Three methods of estimating the degree of success of teachers have been devised in this investigation: (*a*) The first, Rating 1, was based on the estimates of the inspectors from personal knowledge of the teachers with whose work they were familiar. (*b*) In the second, Rating 2, the seven high-school inspectors assigned grades to each teacher in the light of the comments which they made individually on that teacher when making inspectoral visits. (*c*) In the third, Rating 3, seven members of the staff of the Ontario College of Education assigned grades on the basis of the same comments used in Rating 2.

Each of these three methods of rating has a high degree of reliability.

2. Teaching success has low correlation with marks obtained in the Ontario College of Education. Every correlation with teaching success calculated was below .20, except that for practice teaching, which was .377.

3. Practice-teaching marks have some value in predicting success or failure in the field. Of the twenty-eight teaching failures for whom recent practice-teaching marks were available, eight had practice-teaching marks below 480, and six had practice-teaching marks between 480 and 489 [maximum mark possible, 800; passing mark, 480]. Only one of the ten students receiving practice-teaching marks below 480 in 1925–26 became an average teacher; none was better than average. Three of the twenty students receiving marks of 480 to 489 became average teachers; five were better than average.

4. The success of practice-teaching marks in predicting failure, although substantial, was far from complete. Half of the failures discovered had practice-teaching marks of 490 or more. The reason for this lies in the method of conducting practice teaching then in use. It is altogether likely that recent attempts to have practice teaching take place under classroom conditions which are more nearly normal will increase the prognostic value of practice-teaching marks.

5. Students rejected in their first attempt to obtain teaching certificates are

not likely to become successful teachers. Of the twenty-one rejected students studied, only five did not obtain certificates later. Of the remaining sixteen, three did not teach in secondary schools; of the thirteen who did, eight were failures or on the border line between success and failure, and five became average teachers only.

The Baltimore Curriculum Study Program

Few areas in American education have been subjected to more intensive investigation than the curriculum. During the past two decades city after city has marshaled its teaching force in an attack on the problems of curriculum reconstruction, and not infrequently the attack has been on a state-wide front. Many are the books which have been written on the subject, and various are the philosophies advanced with respect to what constitutes a "scientific curriculum." Literally thousands of courses of study have been prepared. Yet, despite all the labor and activity, the curriculum remains an area sorely in need of investigation. Perhaps investigation in this field will always be needed to a greater or less degree. For the curriculum, in its very nature, cannot be the same at all times and in all places; it is no more changeless than society; and only through the curriculum can the social obligations of the school be discharged. It is exactly at this point, however, that much curriculum work falls down. To make a satisfactory curriculum, at least in the area of the social studies, one must have a comprehensive understanding of the workings of our economic, social, and political arrangements—an understanding far deeper than that possessed by many who undertake the task of curriculum reconstruction. The work of the curriculum-maker is often conceived in terms which are too simple. It is not enough to formulate certain broad generalizations about the functions of education and the nature of the child and then proceed to examine scores of courses of study in an attempt to discover the kind of program that is needed. Such a procedure, to be sure, is not without its value; it does help the poorer schools to approach the level of efficiency of the better schools. At best, however, it is only a halfway measure. A curriculum laboratory, many of which have been established in recent years, needs a rich collection of courses of study, but this is not the greatest of its needs. Of more importance is a rich collection of documents which may be made to contribute to an understanding of such matters as the role of the large corpora-

tion in modern society, the distribution of income in relation to the maintenance of a balanced economy, the educational implications of the impact of technology on the pattern of the worker's life, the educational problems of a changing population, the role of government as a social agency, and a score of other problems of similar import. The term "curriculum laboratory" is something of a misnomer; if the task of curriculum reconstruction is properly conceived, the curriculum workers will utilize the total intellectual resources of society.

In Baltimore a system-wide program of curriculum study is in progress which appears to be extremely well conceived. The *Baltimore Bulletin of Education* carries a description of the program, prepared by Assistant Superintendents William R. Flowers, J. Carey Taylor, and Charles F. Willis. The following paragraphs are quoted from the bulletin.

> The varied educational philosophies of the committee members, their uncertainty regarding the school's social responsibilities, and their lack of familiarity with the major social, economic, and political problems of the day made it desirable to undertake a program of study and research activities that would produce a frame of reference, if not an agreed-upon philosophy of education for the public schools.
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> Hence, the Board of Superintendents prepared a list of many present-day problems and submitted them to the members of the committee, requesting them to select those which they felt to be of the greatest importance. Of these problems, the following were selected, partly because they drew the largest number of votes and partly because they gave a fair sampling of the social, economic, and political questions of the day:
>
> 1. Effect of technological development upon society
> 2. The family in present-day life
> 3. International problems and their import
> 4. Disrespect for and attitudes towards authority
> 5. The government in relation to social welfare
> 6. The conservation of natural resources
> 7. Function and scope of education in our present American democracy
> 8. Evolution in a social democracy
>
> To study these eight problems, the general committee was subdivided into topic committees varying in membership from seventeen to twenty persons each. The selection was made, as far as possible, in accordance with the interests of the individuals; but each group was carefully organized to include principals, vice-principals, supervisors, and teachers, as well as representatives of the various subject-matter fields. These topic committees, working under the gen-

eral leadership of the superintendent and his assistants, began their study of the selected problems in the fall of 1935. The first task was the assembly of initial bibliographies, and the second was the organization of tentative outlines for the proper development of each topic. An account of the progress of each topic committee reveals the values that have accrued from the study of these modern problems. . . . .

The absence of a plainly detailed program of action for the further direction of the several curriculum committees is a fact that does not seriously alarm either the Board of Superintendents or most of the committee members. So manifestly has the serious consideration of the selected social, economic, and political questions had a distinctly broadening and deepening effect upon the thinking of all who have participated, that instead of insisting upon a culmination of the studies under way, there is an increasing recognition of a need for further study and discussion. A number of requests have been received for an extension of the investigation to other problems of social and economic significance. Conscious effort will be required to confine the present undertakings to their specific objectives in order to prevent unnecessary diffusion of energy. For the time being, the objectives of the current program will be limited to insure concentration upon the production of new curriculum materials which will meet the needs revealed by the present seven subcommittees. . . . .

The further the studies of the local curriculum committees are carried, the more convinced the members become that there is a need for expert discussion and suggestion. By reason of the highly complex nature of the selected problems, it is not possible for persons, inexpert but interested, to interpret accurately unaided the voluminous and intricate data that are available; let alone, determine fundamental generalizations which will direct the future curriculum. Each of the committees has already expressed a desire to have the benefit of one or more experts to examine and criticize its tentative reports. At first, local authorities in the several areas of study will be invited to assist in the work. Thereafter, some, if not all, of the committees will desire to have the judgment of other experts in the field, particularly where it is known that significant differences of opinion prevail among the authorities. The purpose of such consulting service is to insure that all revisions of the curriculum will be sufficiently comprehensive and will be directed toward socially desirable ends. In this way, the Curriculum Committee and the Board of Superintendents will formulate policies, problems of scope and function, while the more technical questions relating to content and materials will be answered in a large measure by the consulting experts.

The Problem of Youth in the Nations of the World

The National Youth Administration has recently published a volume entitled *Youth: A World Problem*, carrying the subtitle "A Study in World Perspective of Youth Conditions, Movements, and Programs." The purpose of the publication is to raise and answer

such problems as the following: Is there actually a youth problem? If so, how have other countries attempted to solve it? What measures have other governments taken to give young people vocational education or to alleviate the unemployment of youth? Which, if any, of these measures might be applicable to the problems of youth in the United States?

Most of the data presented were gathered by the Department of State of the United States and its foreign-service officers. The Department of State requested consuls stationed in all parts of the world to submit reports on youth conditions and programs in their respective countries. The data have been rewritten and presented in a form as objective as possible. The purpose of the study is to provide students of youth and its problems with a reliable and up-to-date account of world-movements in this area.

This publication may be secured for twenty-five cents from the Superintendent of Documents at Washington, D.C.

Recent Trends in Education in Latin America

A summary of recent educational trends in the various countries of Latin America, prepared for the use of students in comparative education by Ernesto Galarza, assistant in the Division of Intellectual Co-operation of the Pan American Union, has been published in mimeographed form. The following summary of the most significant recent educational developments in the Latin American countries should be of interest to teachers in the United States.

During the past year a marked trend toward nationalism has characterized Latin American education. Many governments have become especially concerned with the rural population living on the territorial fringe, where it is felt that sentiments of patriotism and national loyalty should be particularly strong. The lack of schools in these frontier areas has led many educators to fear that large numbers of future citizens will come of age without having become strongly imbued with the culture and viewpoint of their fellow-citizens. To counteract this possibility, special efforts have been made (Argentina, Mexico, Peru, Bolivia, Uruguay) to study educational problems in these areas and to set up schools equipped to meet them. In general, the feeling has gained ground that the school is the best means for the maintenance of cultural, social, and political characteristics of the nation. In order that the schools may continue to insure national integrity, increasing stress has been laid on the study of local history, geography, and politics as well as on civics and patriotism.

Secondary schools (Chile, Peru, Venezuela, Argentina) in particular have

been thought lacking in a nationalist orientation, and too much concerned with the preparation of students for university and professional careers. Changes have been made in the curriculums which look to the strengthening of the nationalist outlook as well as to the theoretical and practical training of students who will not continue beyond the secondary school. The great disparity which is usually evident between the enrolment in the elementary and secondary schools has been recognized as a major problem whose solution must await increases in the educational expenditures.

Normal schools have undergone a standardization of courses of study, a uniformization of administrative practices, and a limitation of enrolment through the enforcement of higher standards (Mexico, Argentina, Brazil, Venezuela, Chile). Uniform practices within many of the Latin American republics have been set up with a view to facilitating transfers, entrance requirements and establishing norms for teacher rating. The limitation of enrolment has been sought and attained through the efforts of both government officials and teachers in service, the former finding it increasingly difficult to place normal graduates in the state schools. Though the need for a larger number of classroom teachers is evident in the teaching load, which in some cases reaches a ratio of one hundred pupils per teacher, the restricted appropriations of the depression years have not recovered sufficiently to allow an increase in appointments. Aside from the enforcement of higher standards, restriction of enrolment in normal schools has been achieved by limiting the granting of licenses by state and provincial authorities.

Rural education, as in the past, has shown the close relationship that exists between racial, cultural, and economic problems, so far as the education of the masses is concerned (Bolivia, Colombia, Cuba, Uruguay, Ecuador). The rural school has been required to carry a heavy load of social-welfare work, industrial training, adult education, and technical progress. On the whole, it has been felt that the principal function of the rural school is to train boys and girls to make economical use of the raw materials at hand, to meet their own needs as consumers, and to develop small, local industries to this end. In a period of economic contraction, this view of rural education is the only one that will permit the state to fit its philosophy to its income; but it is a question how permanent this view might be should the social forces at work before the depression once more resume their course. Highways, for example, which are slowly spreading in a huge network over the continent, have tended to favor large-scale production for the market as against local industries for home use and for barter. Basically, the problem consists in the unproductiveness of antiquated methods in farming, the consequent impoverishment of rural communities, and the drabness of life for pupils and teachers in those areas. In attempting to correct this situation, which in the case of teachers causes unwillingness to remain long in a rural school, various governments, notably that of Cuba, have offered inducements in the form of higher salaries or bonuses.

The interest in modern educational methods, especially in the elementary

grades, has become more intense. Several new magazines (*Caminos* of Panama, *Nueva escuela* of Cuba, *Cronica educacional* of Argentina, *Educación* of Bolivia) have been founded for the purpose of disseminating information concerning those methods and to stimulate research and interchange of ideas. Secondary- and normal-school curriculums have been reconstructed (Costa Rica, Mexico, Chile, Peru, Venezuela) with a view to lessening the traditional emphasis on memorizing, textbook instruction, and passive learning. This movement, although stimulated by the writings of foreign experts, is characterized by caution in not attempting to apply foreign ideas without adaptation to local peculiarities and needs. On the whole, the introduction of the activity program on the elementary level particularly, has been beneficial largely in the searching theoretical discussion of principles which it has provoked. It has also led to the establishment (Uruguay, Venezuela, Bolivia, Brazil) of experimental schools which in time will test the practicability of those theories. The increase of school expenditures which a progressive type of instruction implies has not materialized, leaving the introduction of progressive education a responsibility that falls largely on the classroom teacher.

The important bearing that problems of health, housing, and nutrition have on the problems of teaching has been more and more recognized (Argentina, Costa Rica, Uruguay, Ecuador), giving rise to a series of studies on those problems. Such studies, particularly those on the medical services provided by the schools, are limited in scope but promising in their spirit and method. Physical education has been actively promoted, particularly in the Central American republics, Peru, and Chile. The co-operation of parents and lay associations in the home and community adjustments of school children, especially those of the poorer classes, has been stimulated by increased knowledge concerning those problems. Many *patronatos* and parent-teacher associations have been successful in the provision of free lunches, the distribution of clothing, and the opening of summer camps.

The foundations for a more active interchange of students and teachers than any heretofore known in the Americas were laid by the peace conference held in Buenos Aires in December, 1936. According to a convention signed at that conference, every American republic, once ratification is secured, will grant every year two fellowships to graduate students or teachers from each of the other republics. Should all the countries ratify the treaty, there will eventually be, according to ideal conditions envisioned by this plan, more than eight hundred students and four hundred professors actively engaged in research, teaching, and lecturing throughout the American continents.

Guides to the Use of Motion Pictures in Education

Some years ago the American Council on Education recognized the need of an appropriate agency to act as a national clearing-house for educational motion pictures. Under a grant from the General

Education Board, the council organized a Committee on Motion Pictures in Education. The committee has recently published two timely booklets, one bearing the title *The Motion Picture in Education: Its Status and Its Needs,* and the other *Teaching with Motion Pictures: A Handbook of Administrative Practice.* The first booklet is a concise review of five major problems which must be considered by anyone interested in the development of visual education. These problems are analyzed, and suggestions for solving them are made which may be followed by any administrator in his own school system. The second booklet deals specifically with the major problems of the use of motion pictures in the classroom. It is intended for the teacher and the administrator, and it provides concrete answers to the most frequently posed questions relating to motion pictures and other visual teaching materials. Concise, pertinent information is presented on such questions as the desirability of using educational films in a school system; the kind of motion-picture equipment most suitable; the financing of a motion-picture program; the choice between sound and silent films; sources of films; the choice between sale, rental, or free-loan films; the selection of films; the selection and the duties of the person in charge of equipment; the storing, the handling, and the distribution of films; the servicing of films and equipment; the records necessary in handling films; training teachers in the use of films and equipment; methods of teaching with films; and the evaluation of the motion-picture program. A source list of films, a bibliography, and a glossary of technical terms are also included.

Phi Delta Kappa Enters a New Area of Publication

Educational Abstracts, formerly owned and edited by Norman J. Powell and associates, of New York City, has recently become the property of Phi Delta Kappa, educational fraternity. The first issue of the journal under the new management appeared in December under the editorship of Paul M. Cook and associate, W. A. Stumpf. With this issue the journal completed its second volume.

Several changes in policy will become effective with the first issue of Volume III. To the thirty-four classifications which have been in use will be added two new categories—"Agricultural Education"

and "Methods of Teaching." Another classification is contemplated in which will appear abstracts of articles on education published in lay magazines. Under this expanded classification the editors contemplate a thoroughly representative coverage of the significant publications in education, including books, articles, and bulletins. In addition, significant unpublished researches will be abstracted provided they are available for interlibrary circulation.

While *Educational Abstracts* now carries many abstracts of foreign publications, this area will be developed much more adequately than it has been. Eventually the publication, with the co-operation of educators in foreign countries, will be definitely international in scope. Obviously this international coverage may come to be a feature of more than usual importance to educators in this country who wish to keep abreast of the advances being made abroad.

Phi Delta Kappa is fully aware of the non-profit nature of this new undertaking and, as a matter of fact, expects to underwrite the project for several years if necessary. There seems to be a definite opportunity for service in the undertaking, and on that basis the association has accepted and is sponsoring the publication.

The new address of *Educational Abstracts* is 1180 East Sixty-third Street, Chicago, Illinois.

Who's Who in This Issue

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COMPARISON OF THE ABILITY OF RURAL AND URBAN AREAS TO SUPPORT EDUCATION

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Because the best and the most favorably known school systems are located in cities and because many rural schools are known to be poor, it is usually taken for granted that one of the great tasks of American education is to bring rural education up to the standards already attained in the better urban schools. Because it is well known that large volumes of wealth are concentrated in cities and that agriculture is one of the least profitable pursuits, it is commonly supposed that the cities are rich and that rural territory is poor. Any program which is designed to equalize the burden of supporting the educational program throughout the state is thought by many to be largely a method of assisting rural territory.

Under a system of local administration and support of schools, the ability of the various local units to furnish the necessary financial support is a serious matter. If all localities could support a reasonable program of education with equal ease, the state could require the support of schools out of local funds in all communities without inflicting injustice on any community or taxpayer. If the state should desire to distribute aid in order to relieve the property tax, it would be equitable to do so on a basis of some flat measure of need, such as a certain amount per pupil, that would make no distinction between districts. However, a condition of uniform wealth and ability to support education does not exist in any state. It is a matter of common knowledge that in every state there are rich districts and poor districts, some school districts that can easily support the most elaborate system of education and others that can scarcely maintain a school at all.

In an investigation of the comparative abilities to support educa-

tion of districts of varying degrees of urbanization, data from the five states of Iowa, Oklahoma, Oregon, South Carolina, and Washington were so treated as to express the relative ability of each community in each state to support schools. Since the only tax that a local community can successfully collect is the property tax, arranging the data to show relative ability means distributing the districts according to their taxable valuations.[1] In case it was available, the full valuation of property liable to taxation in the district, instead of the assessed valuation, was used.

The total educational load of the community for a reasonable educational program was expressed in terms of elementary classrooms, according to the method set forth in *State Support for Public Education*.[2] Then the assessed or full valuation of the district was divided by the total number of classrooms which expressed its load. The quotient gives the valuation of taxable property behind each classroom—a measure which, crude as it is, is as good as any available at the present for measuring the relative ability of communities to support an educational program.

The results of the procedure may be summarized for the five states in a brief space. The districts of each state were arranged in ascending order of taxable wealth per classroom. The poorest districts, which contain 3 per cent of the classrooms in the state, were grouped together. Then the next poorest districts, which contain the next 7 per cent of the classrooms in the state, were grouped together, and so on. The districts of the state were divided into eight groups with 3, 7, 15, 25, 25, 15, 7, and 3 per cent of the classrooms in the state arranged in ascending order of wealth, as shown in Figure 1.

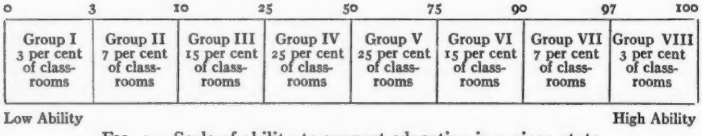

FIG. 1.—Scale of ability to support education in a given state

[1] For a discussion of the fallacy in using economic ability as the criterion, see: Paul R. Mort, *State Support for Public Schools*, pp. 16–17. New York: Teachers College, Columbia University, 1926.

[2] Paul R. Mort, assisted by the Research Staff of the National Survey of School Finance, *State Support for Public Education*, pp. 120–23. Washington: American Council on Education, 1933.

As was to be expected, the variation in ability to support schools between the wealthiest and the poorest districts in any one of the states was found to be great. For the sake of convenience in presentation, Table 1 gives the valuation in thousands of dollars per classroom for districts lying at the division points between the zones marked out on the scale shown in Figure 1.

The variation in ability to support schools is greater in some states than in others because of differing natural endowments. In Table 1 the highest valuation shown for Oklahoma is approximately eleven

TABLE 1

TAXABLE VALUATION OF DISTRICTS PER ELEMENTARY CLASSROOM AT VARIOUS PERCENTILE POINTS ON SCALE OF WEALTH IN FIVE SELECTED STATES*

State	Valuation (in Thousands of Dollars) at Percentile Point						
	3	10	25	50	75	90	97
Iowa	13	19	24	34	43	49	64
Oklahoma	21	31	46	76	106	181	226
Oregon	32	61	91	136	196	241	466
South Carolina	6	7	13	22	37	52	67
Washington	68†	82	136	199	236	271	532

* Read as follows: In Iowa the district 3 per cent from the bottom in ability to support education has an assessed valuation of 13 thousands of dollars per elementary classroom, the district 10 per cent from the bottom has an assessed valuation of 19 thousands of dollars per elementary classroom, and so on.

† The great range in apparent wealth per classroom between states is due to differences in the percentages that assessed valuation is of true valuation more than to differences in wealth.

times the lowest, while Iowa's highest valuation is about five times the lowest. Since Iowa is rather uniform and Oklahoma varies from extremely poor agricultural land to rich oil fields, it is not surprising that a greater contrast in the ability of different communities to support education is found in Oklahoma. It should be noted in this connection that the extremes of wealth and poverty are not shown in the table, there being 3 per cent of the classrooms in the state in districts poorer than the third percentile valuation given, and 3 per cent of the classrooms in districts richer than the ninety-seventh percentile valuation. In any state in which the district system is used, it is comparatively easy to find districts twenty or more times as wealthy as the poorest districts in the state. If, to the variation in ability to support schools due to differences in taxable wealth in the districts,

there be added the tendency of the many state-aid systems to allot the major part of state aid on some basis which makes no discrimination between the more and the less able districts, it is easy to see that educational equality and equality of tax burdens are out of the question under such arrangements unless the amount of the state aid is sufficient to support completely an adequate educational program.

TABLE 2

PERCENTAGE DISTRIBUTION OF SCHOOL ADMINISTRATIVE UNITS OF VARIOUS CLASSES ACCORDING TO THEIR ABILITY TO SUPPORT EDUCATION

CLASSIFICATION OF CITY OR DISTRICT	PERCENTAGE IN ABILITY GROUP*								
	I (Lowest 3 Per Cent)	II (4–10 Per Cent)	III (11–25 Per Cent)	IV (26–50 Per Cent)	V (51–75 Per Cent)	VI (76–90 Per Cent)	VII (91–97 Per Cent)	VIII (Highest 3 Per Cent)	Total
Cities with populations of 100,000 or more	.....	.....	.....	.....	55	34	11	.....	100
Cities with populations of 30,000 to 99,999	.....	.....	7	31	10	7	3	42	100
Cities with populations of 10,000 to 29,999	.....	2	16	20	15	23	22	2	100
Cities with populations of 2,500 to 9,999	1	9	25	34	22	8	1	.....	100
Districts with more than 10 classrooms†	4	12	31	32	13	3	4	1	100
Districts with 2 to 10 classrooms	4	8	21	30	18	8	8	3	100
Districts with 1 classroom	4	3	11	17	22	15	14	14	100

* These figures are unweighted averages derived from Table 3.

† But with populations of less than 2,500.

These data on the relative ability of school districts to support schools include all the districts of the state. When the location of each type of district on the scale of ability was examined, it was found, as shown in Table 2, that, of the classrooms in cities with populations of 100,000 or more, 55 per cent fell in Group V, 34 per

TABLE 3

PERCENTAGE DISTRIBUTION OF SCHOOL ADMINISTRATIVE UNITS OF VARIOUS CLASSES ACCORDING TO THEIR ABILITY TO SUPPORT EDUCATION

CLASSIFICATION AND STATE	PERCENTAGE IN ABILITY GROUP							
	I (Lowest 3 Per Cent)	II (4–10 Per Cent)	III (11–25 Per Cent)	IV (26–50 Per Cent)	V (51–75 Per Cent)	VI (76–90 Per Cent)	VII (91–97 Per Cent)	VIII (Highest 3 Per Cent)
Cities with populations of 100,000 or more:								
Iowa	.....	.....	.....	.....	100.00	.....	.....	.....
Oklahoma	.....	.....	.....	.....	.....	55.01	44.99	.....
Oregon	.....	.....	.....	.....	100.00	.....	.....	.....
South Carolina	.....	.....	.....	.....	.....	.....	.....	.....
Washington	.....	.....	.....	.....	17.72	82.28	.....	.....
Average	.....	.....	.....	.....	54.43	34.33	11.24	.....
Cities with populations of 30,000 to 99,999:								
Iowa	.....	.....	30.76	.....	17.91	27.00	16.14	8.19
Oklahoma	.....	.....	.....	.....	.....	.....	.....	100.00
Oregon	.....	.....	.....	88.12	11.88	.....	.....	.....
South Carolina	.....	.....	.....	.....	.....	.....	.....	100.00
Washington	.....	.....	4.89	66.37	21.45	7.29	.....	.....
Average	.....	.....	7.13	30.90	10.25	6.86	3.23	41.63
Cities with populations of 10,000 to 29,999:								
Iowa	.....	5.95	48.72	40.34	4.99	.....	.....	.....
Oklahoma	.....	.....	.....	18.57	39.96	19.81	15.41	6.25
Oregon	.....	.....	.....	.....	.....	.....	.....	.....
South Carolina	.....	.....	.....	.....	.....	48.52	51.48	.....
Washington	.....	.....	.....	.....	.....	.....	.....	.....
Average	.....	1.98	16.24	19.64	14.98	22.78	22.30	2.08
Cities with populations of 2,500 to 9,999:								
Iowa	1.94	23.40	37.23	33.69	3.11	0.63	.....	.....
Oklahoma	.....	6.32	.....	57.93	31.10	4.65	.....	.....
Oregon	.....	.....	.....	13.73	53.87	29.54	2.86	.....
South Carolina	.....	.....	.....	.....	.....	.....	.....	.....
Washington	.....	5.62	63.88	30.50	.....	.....	.....	.....
Average	0.49	8.83	25.28	33.96	22.02	8.70	0.72	.....

TABLE 3—*Continued*

Classification and State	Percentage in Ability Group							
	I (Lowest 3 Per Cent)	II (4–10 Per Cent)	III (11–25 Per Cent)	IV (26–50 Per Cent)	V (51–75 Per Cent)	VI (76–90 Per Cent)	VII (91–97 Per Cent)	VIII (Highest 3 Per Cent)
Districts with more than 10 classrooms:*								
Iowa	4.95	18.11	27.27	35.19	12.58	1.46	0.24	0.20
Oklahoma	0.66	6.93	28.43	43.59	15.02	1.88	1.94	1.55
Oregon	6.20	16.00	43.69	19.95	4.62	2.75	6.79	.....
South Carolina	2.30	5.56	20.77	31.97	19.58	9.50	7.21	3.11
Washington	3.33	14.00	34.05	30.11	10.87	1.35	5.96	0.33
Average	3.49	12.12	30.84	32.16	12.53	3.39	4.43	1.04
Districts with 2 to 10 classrooms:								
Iowa	5.91	12.78	19.46	34.45	19.94	3.96	2.03	1.48
Oklahoma	2.38	9.75	20.76	38.23	16.45	8.38	1.20	2.85
Oregon	5.62	7.05	22.41	25.08	19.73	8.03	8.61	3.47
South Carolina	1.01	6.66	26.95	31.84	21.03	7.46	3.05	2.00
Washington	5.74	6.99	15.41	21.27	12.05	10.62	24.46	3.46
Average	4.13	8.65	21.00	30.17	17.84	7.69	7.87	2.65
Districts with 1 classroom:								
Iowa	0.86	1.16	4.03	17.71	31.26	23.63	16.45	4.90
Oklahoma	0.77	3.12	7.05	24.99	23.40	25.22	9.94	5.51
Oregon	8.24	5.29	14.70	16.47	15.87	8.23	19.99	11.21
South Carolina	3.31	.83	13.23	12.35	36.35	13.23	3.32	17.38
Washington	6.06	5.31	15.15	12.86	6.06	3.79	19.72	31.05
Average	3.85	3.14	10.83	16.88	22.59	14.82	13.88	14.01

* But with populations of less than 2,500.

cent in Group VI, and 11 per cent in Group VII. About 7 per cent of classrooms in cities with populations of 30,000 to 99,999 were in Group III, 31 per cent were in Group IV, 10 per cent in Group V, 7 per cent in Group VI, 3 per cent in Group VII, and 42 per cent in Group VIII. The appearance in the very highest level of ability of this extremely high percentage of cities with populations from 30,000 to 99,999 is due to the fact that all the cities of this size in both Oklahoma and South Carolina happen to fall in this group, as can be seen in Table 3. This detail is in accord with the opinion expressed by one student of the question that there is a greater difference between the

urban and the rural territory in the South than in any other part of the country.

Cities with populations of 10,000 to 29,999 are distributed from Group II–VIII, inclusive. Cities of 2,500 to 9,999 are represented in all but the richest group. Each of the rural groups of districts—districts in places of less than 2,500 but having ten or more teachers, districts having from two to ten teachers, and districts having only one teacher—covers the whole range of ability.

The outstanding and important fact brought out by these tables is that no accurate prediction of the relative ability of any district to support schools can be made from its size. If the community in question is a city of 100,000 or more, there is a very good probability that it will lie in one of the four wealthier groups, but in none of the states in question did such a city fall in the wealthiest group. Cities with populations of from 30,000 to 99,999 and from 10,000 to 29,999 tend to be in the wealthier groups but a district in any other classification according to size has a chance to fall in any group of ability. The inclusion of data from other states would doubtless change the details of this table somewhat, but the important point—that the ability of a district to support schools does not depend on its size or on whether it is rural or urban—would without doubt be reinforced.

If state funds for education are to be so distributed as to equalize the burden of the support of education, it is evident that any type of district, from the largest city to the smallest district, must be equitably treated whether it is situated near the lower or the upper end of the scale in ability.

What is needed in systems for the allotment of aid is an arrangement whereby each district which is intrusted by the state with the responsibility of maintaining schools, whether urban or rural, small or large, shall receive the amount required to supplement the product of a reasonable, uniform local tax rate up to a point where an adequate program of education can be maintained. The issue is not rural versus urban; it is rich versus poor.

READINESS AND THE ARITHMETIC CURRICULUM

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Properly, the definition of "readiness" as the ability to learn includes *all* aspects of ability. Involved in this ability to learn are the dynamic factors of motivation and the social factors of need. Nevertheless, in this article the term "readiness" is held closely to its purely intellectual aspect since it is in this sense that argumentation and research on readiness have been most largely organized.

What, then, do we know about number readiness, about children's ability to learn arithmetic? The evidence on this problem is of three kinds: evidence from first-grade inventories, evidence from evaluation by testing, and evidence secured from control-group experiments.

EVIDENCE FROM FIRST-GRADE INVENTORIES

The first kind of evidence has been obtained by inventorying the number abilities of children before or just after they enter school. The studies of this kind are those reported by Buckingham and MacLatchy (4), Hildreth (7), McLaughlin (12), Polkinghorne (15), Russell (17), and Woody (31, 32). It is impossible in an article like this to review the separate studies, but a fair summary would be about as follows: Children upon entering Grade I already possess an equipment of number knowledge far larger than we supposed ten years ago. On the average, they can enumerate objects and count by rote to 20 or 25; they can use some of the simpler addition and a few subtraction combinations; they even understand a little about the meaning of fractions. On the other hand, their abilities, for the most part, function satisfactorily only with concrete objects and in concrete settings. Furthermore, these abilities operate clumsily and uneconomically, representing, as they do, low-order or immature procedures.

What are the implications of these studies? One interpretation

is that, since children, on their own, have learned so much about number, they should be allowed to continue on their own for another year or two at least. A second interpretation is that the possession of so large a stock of usable number ideas and skills is proof positive of readiness for direct teaching. The two interpretations point in diametrically opposite directions. The second interpretation requires the immediate introduction of "systematic" instruction; the first, the postponement of such instruction. Both interpretations are extreme, and another interpretation is also possible, as will be shown later.

EVIDENCE FROM EVALUATION BY TESTING

The second kind of evidence on readiness has been secured by measuring the effects of arithmetic instruction when started at various points in the grades. Reference is made here not to control-group experiments but rather to comparisons made between schools in which the arithmetic courses of study have differed materially.

Committee of Seven investigation.—Here belongs the investigation by the Committee of Seven, reported by Washburne in 1928 (**23**). In this study a battery of tests in various arithmetic processes was given to some five thousand sixth-grade pupils in fifteen cities. About a third of the pupils tested had started arithmetic in Grade I, a third in Grade II, and a third in Grade III. The medians of the three groups indicated that the advantage lay, in eleven of the twelve skills tested, with the pupils who had begun arithmetic in Grade I as compared with the other two groups, and with those who had begun arithmetic in Grade II as compared with those who had begun in Grade III. The statistical reliabilities of the differences cannot be ascertained from the published data, but at least the differences were remarkably consistent. Washburne, after ruling out other possible explanations, concluded that the differences found were real and that they were due to differences in the time at which systematic instruction had been introduced

All things considered, the noteworthy fact about this study is not that the differences found were small but rather that differences were found at all. In the first place, the shifting of school populations over a period of five years would have tended to level away the differential effects of the supposedly distinct learning experiences of

the three groups. In the second place, it is doubtful whether in the years 1922–25 instructional materials were available which could have taken advantage of any differential effects of pre–fourth-grade instruction. That is to say, the chances are that in all fifteen cities standard textbooks were introduced at the beginning of Grade III. If so, it would have been practically impossible to capitalize on the gains, if any, from instruction in Grade I, or in Grade II, or in Grades I and II. Put it this way: the committee's data, collected in Grade VI, almost certainly undervalued greatly the potential differences between the three groups tested.

MacGregor's study.—Another investigation of this second type was published by MacGregor (11) in England in 1934. In brief, MacGregor gave Battery A of the Public School Achievement Test to all the 5,961 pupils in the Fife County public schools whose eleventh birthdays fell in the session 1930–31. Only the results in arithmetic are considered here. In spite of the fact that the Scottish children were relatively unfamiliar with standardized tests and in spite of the fact that they were unduly penalized by several items in the American tests, they surpassed the American norms by some eighteen months in computation and by about fifteen months in problem-solving. MacGregor accounts for the Scottish superiority on the ground of school entrance at five years of age. Possibly, too, in Scotland arithmetic is planned with an eye to real continuity. There the third year of arithmetic may be so closely organized with respect to the first two years as to avoid the break which is found at this point in American schools. As Woody (33) has pointed out, the ultimate explanation for the poorer showing of the American children will be extremely difficult to determine. Whatever the explanation, MacGregor's study is extremely significant for the problem of number readiness. The Scottish children learned arithmetic, not at age six, but at age five; further, they retained their initial advantage through six years of schooling. More than that, MacGregor believes that with appropriate tests this advantage could be shown actually to have increased.

In summary.—To conclude this review of the second kind of evidence on readiness: The investigations of MacGregor and of the Committee of Seven show unmistakably that primary-grade children

are capable of profiting from systematic instruction in arithmetic. There may be reasons for postponing such instruction to later grades, but those reasons can hardly be reasons of readiness. It is *readiness*, and readiness alone, which is here under consideration.

EVIDENCE FROM CONTROL-GROUP EXPERIMENTS

The third kind of evidence, that secured from control-group experiments, has dealt with two phases of the problem: (1) "formal" arithmetic versus postponement and (2) placement of particular topics.

1. "FORMAL" ARITHMETIC VERSUS POSTPONEMENT

The first type of control-group experiment is represented by the investigations reported in England by Ballard (**1**) in 1912, and in this country by Taylor (**20**) in 1916, by Wilson (**30**) in 1930, and by Benezet (**2**) in 1935–36. In these studies so-called "formal" arithmetic was withheld in the experimental groups, while it was administered as usual in the control groups. At the end of the experimental period the comparative achievements of the two groups were measured. Without exception, the experimenters have recommended the postponement of "formal" arithmetic—Ballard for two years (until age seven), Taylor for one year, Wilson for two years, Benezet for even longer.

The Benezet study.—Just what these studies mean is open to question. The Benezet experiment (**2**) has not been reported in a manner which encourages confident criticism. Still, it is clear that the effects of two approaches to arithmetic were contrasted: on the one hand, dull, meaningless drill of the traditional sort, begun in Grade I and continued for five years; on the other hand, vitalized, purposeful, but essentially unorganized experiences enjoyed over an equivalent period of years.

In my opinion, this investigation is best regarded as an attack on the aimless, unproductive instruction in arithmetic still too prevalent in the schools. Certainly this interpretation is as valid as is that of the experimenter, who sees in his results a demand to postpone systematic instruction for some years. The Benezet data do not prove that children in the primary grades are unready for *arithmetic;* instead, they show that the children in his control group

were unready for *the kind* of arithmetic to which they were subjected. That is quite a different matter.

Other instructional approaches than the two compared by Benezet are possible. There is, for example, a third approach, which was not investigated by Benezet nor by any of the other three experimenters in this group of four, namely, a program of systematic instruction, beginning in Grade I, which is made up of carefully selected and wisely directed but nonetheless interesting, useful, and meaningful number experiences and which is arranged with a view alike to orderly growth in quantitative thinking and to a more intelligent and happier child life.

The Wilson study.—The Wilson investigation of 1930 (**30**) did not prove the wisdom of eliminating all arithmetic instruction from the first two grades. As a matter of fact, Wilson proposed nothing of the kind. His report is full of concrete illustrations of live, useful number activities for the primary grades, and it is full, too, of evidence of the real value of such activities in preparing for later abstract arithmetic. Wilson argued not that children in Grades I and II are unready for *arithmetic*, only that they are unready for *a particular kind* of arithmetic.

The Ballard and the Taylor studies.—The English study by Ballard (**1**) and the better-known American study by Taylor (**20**) are both subject to the criticism already made with respect to the Committee of Seven investigation. Buckingham (**3**) has stated this criticism to good effect. According to Buckingham, the control group, taught as usual in Grade I, must have learned *some* arithmetic and consequently must have started Grade II with an advantage over the untaught experimental group. Failure to maintain their advantage is explicable on grounds of *undifferentiated* instruction. Says Buckingham: "If the same energy and resourcefulness [had been] devoted to the taught group as to the untaught group during the third grade, it is probable that the two groups would [have been] wider apart at the end of the year than they were at the beginning of it" (**3**: 343).

In summary.—These four control-group experiments are in substantial agreement in concluding that the older type of arithmetic instruction must be banished from the lower grades and that children of the ages of six and seven, at least, are incapable of learning (they

are *unready* to learn) abstract arithmetic when presented through the usual mechanical drill techniques and devices. On the other hand, they agree that primary-grade children can learn (are *ready* for) much arithmetic when that arithmetic is met incidentally and informally in the service of their needs.

None of the four investigations has tested a third instructional approach—an approach no less systematic than intermediate-grade arithmetic now is but at the same time no less useful, meaningful, and attractive than the arithmetic of incidental experience.

2. PLACEMENT OF PARTICULAR TOPICS

There is another type of control-group experiment on readiness: the type designed to determine readiness for specific arithmetic processes. Many studies relating more or less directly to readiness fall in this category,[1] for example, those on the comparative difficulty of long and short division made by Grossnickle (6), John (8), Johnson (9), and Olander and Sharp (13). By far the best known are the extensive and the long-continued investigations of the Committee of Seven (5, 14, 16, 18, 19, 22, 24, 25, 26, 29).

Committee of Seven investigations.—The results of the investigations by the Committee of Seven were first reported in 1930 in the Twenty-ninth Yearbook of the National Society for the Study of Education (22) and have since appeared in other places.

The general pattern of the experimental procedure employed by the committee is probably familiar to the reader. The usual grade placement of such a topic as the multiplication of fractions was determined through a comparative analysis of courses of study. Arrangements were then made with co-operating schools to teach this topic in three grades: the usual grade and the grades immediately preceding and following the usual grade. Intelligence tests and foundations tests, covering the skills requisite to learning the new topic, were administered. Instruction then followed according to plans supplied by the committee. A careful attempt was made to control such matters as time of day, length of the arithmetic period,

[1] Here also, except for space limitations, might properly be mentioned the many investigations which have shown instructional procedures to be successful or unsuccessful because of their peculiar demands on pupils. A case in point is McConnell's study (10) of two methods of teaching the simple number facts.

and so on. During the course of the teaching, at its close, and six weeks later, tests were given to measure achievement. The data were then treated to discover the particular mental age at which the given arithmetic topic could be taught most economically. That mental age was adopted at which at least three-fourths of the children could show 80 per cent mastery as revealed in the retention test. Employing this criterion, the committee recommended that the process of subtraction be taught at the mental age of eight years and nine months, compound multiplication at twelve years and four months, division of fractions at twelve years and three months, and so on. This review, brief but I hope not unfair, must suffice for the purposes of this article.

It was my original intention in this article to criticize fully these later investigations of the Committee of Seven. The limitation of space makes such treatment impracticable. Instead, I can but present in a bare sentence or two the principal reasons that I see for objecting to the committee's proposals.[1]

My objections are four in number. The first two have their origin in the committee's experimentation and, I believe, are crucial enough to prevent adoption of its recommendations.

In the first place, the committee's mental-age standards, being based on a single instructional program, can be safely accepted only for situations where this program is also accepted and is followed exactly. Deviations in time allotment for arithmetic, in the materials and the methods of teaching, in the number of weeks spent on topics, or in any other aspect of instruction may be expected to make these standards of doubtful value.

In the second place, the general validity of the committee's conclusions is a direct function of the suitability of the tests employed to secure those conclusions. But one of these tests has been published: the subtraction test printed in the Twenty-ninth Yearbook. If the other tests were constructed as was this one, little confidence in the committee's conclusions is justified.

In the third place, the conception of readiness logically required

[1] These objections will be developed and defended in the writer's article, "A Critique of the Committee of Seven's Investigations of the Grade Placement of Arithmetic Topics," to be published in a later number of this journal.

by the committee's recommendations for the separate processes is unsound psychologically and is likely to be misleading educationally. Readiness seems to be viewed as the result of some inner maturation, not as the product of experience. Thus the effects of merely growing older tend to be exaggerated, and the influences of experience and direct instruction tend to be minimized.

In the fourth place, overconcern with matters of grade placement diverts attention from more basic issues. Changing the time for teaching particular processes can solve few of the problems. The need is for a fundamental reorganization of instruction from bottom to top.

CONCLUDING STATEMENT

I want to conclude on a positive, not a negative, note. Elaboration of the last sentence of the preceding paragraph makes it possible to do so. What is this needed fundamental reorganization of instruction?

Its outlines are already clear in the work being done with primary-grade arithmetic. Instead of postponing topics—the easy way out—new ways are being sought to teach the content still somewhat generally assigned to Grades I and II. Efforts of this kind are more than justified by the research that I have summarized, which shows that children in Grade I can learn arithmetic. Changes in instruction are being made in order to take the fullest possible advantage of this readiness. The plan is to translate some of the abstract arithmetic of later grades into an intelligible body of concrete number experiences for children in the first grades. That the plan is workable has also been amply demonstrated by research, some of which has been cited in this article. It seems to be workable whether the basis is found in the social uses of number, as stressed by Wilson (30), or in the better understanding of arithmetic as such, as emphasized by Thiele (21).

The same kind of reorganization is probably feasible in the higher grades. Changes in the placement of content—only part of the problem—should be made only as reorganized instruction shows need for the changes. The multiplication of fractions, for example, can be analyzed; the easiest and simplest concepts and skills can be moved lower in the grades at the same time that the hardest aspects

of the topic are moved higher. According to this plan, instruction in the multiplication of fractions may be thought of as beginning in Grade I and continuing without a break into Grade V or Grade VI. The learning is continuous, uninterrupted; each stage develops readiness for the next. The aids available from related experience make their contribution to the general movement toward mature, intelligent grasp on the quantitative in life.

To achieve such an instructional reorganization in arithmetic is a research program which can challenge the best efforts of all educators.

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GRADE PLACEMENT OF CHILDREN'S BOOKS

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"Every teacher has to face the problem of fitting reading material to children's reading ability. Any attempt in the past to give children suitable material has been largely a matter of guesswork. An objective method of determining what material is appropriate for children of given reading ability is needed by classroom teachers. Similarly, in selecting textbooks and supplementary-reading material, the superintendent or supervisor should have a means of knowing whether the books are within the reading grasp of the children for whom they are intended. The writers of textbooks and other books for children need to have an objective method of determining whether their vocabulary and sentence structure are such as will offer no serious obstacles to the children who are to read what they write."

So began an article by the present authors in the January, 1928, issue of the *Elementary School Journal*.[2] The article went on to describe the derivation of a formula, based on several years of research, for the effective grading of children's books. Since that time we have continued the research, broadened its base to include books for children in the primary grades, refined our methods, tried out many variant formulas, and arrived at a more satisfactory and more useful formula and an easier technique for applying it. We have then proceeded to apply it to more than two thousand books, most of which have been selected by a committee of expert children's librarians, chosen by the American Library Association, and have pub-

[1] During the years 1929–32 Vivian Weedon, now of the Bureau of Educational Research, Ohio State University, took over much of the work which prior to 1929 was, and since 1932 has again been, the responsibility of Mrs. Morphett.

[2] Mabel Vogel and Carleton Washburne, "An Objective Method of Determining Grade Placement of Children's Reading Material," *Elementary School Journal*, XXVIII (January, 1928), 373–81.

lished the result in a volume called *The Right Book for the Right Child.*[1]

The first part of the present article deals with the improvement of the formula; the last part deals with its application.

Since the basis of the earlier formula was the study of what children read and enjoy at various levels of reading ability from Grade III through Grade IX[2] and since that study was also one of the two bases of the present formula, let us recapitulate briefly that earlier study.

To children—36,750 in all—attending a wide variety of schools in a wide variety of locations was administered the paragraph-meaning section of the Stanford Achievement Test. The children were asked to fill out ballots on all the books that they had read during the school year. About a hundred thousand ballots were turned in. These were assembled by book titles, and the median reading grade of the children who liked each book was taken as the grade in which the book belonged. Various checks on the validity of this assumption proved it to be sound, except that, as Shuttleworth subsequently pointed out,[3] the relatively small numbers of ballots received at the upper and the lower extremes tended to skew the grading of the books at these extremes toward the middle grades. This skewing was not taken account of in the earlier formula.

One hundred and fifty-two of the books on which large numbers of ballots had been received, these books being spread with respect to difficulty from Grade III to Grade IX, were analyzed in minute detail, and each element of vocabulary, sentence structure, paragraph length, etc., was correlated with the reading grades of the children liking the books. The best correlations were combined in a regression equation to yield the 1928 formula.

This formula was made up of four elements: number of different

[1] Mary S. Wilkinson, Vivian Weedon, and Carleton Washburne, *The Right Book for the Right Child.* New York: John Day Co., 1933 (revised in 1936).

[2] Carleton Washburne and Mabel Vogel, *Winnetka Graded Book List.* Chicago: American Library Association, 1926. Published in 1929 by Rand McNally & Co., under the title *What Children Like to Read.*

[3] Frank K. Shuttleworth, *A Critical Study of Two Lists of Best Books for Children.* Genetic Psychology Monographs, Vol. XI, No. 4. Worcester, Massachusetts: Clark University, 1932.

words in a sampling of one thousand; number of "uncommon" words in the same sampling, "uncommon" being defined as not included among the ten thousand commonest in the Thorndike list;[1] number of prepositions among the thousand words; and number of simple sentences among seventy-five sample sentences. Each of these elements was duly weighted in the formula.

That formula had certain faults. First of all, it shed no clear light on the grading of books for use in Grades I and II. In the second place, it required a preposition count which, seemingly simple, proved in practice to be surprisingly difficult (many prepositions are very hard for anyone not an expert grammarian to identify). Third, there was no chart form to simplify the application of the formula, and the fact that any of the ten thousand commonest words were considered common made such a chart as will be described later impossible. Finally, the formula did not allow for the skewing due to a smaller number of ballots in the upper and the lower extremes of the original list and therefore rated primary books too high and eighth- and ninth-grade books too low.

To remedy the first defect was most important and most time-consuming. We had to discover what constituted first-, second-, and third-grade books. Our technique for Grades III–IX was not applicable: first- and second-grade children could not fill out ballots; their choice of books was usually only among those supposedly of their own grade level; they were still too much involved in learning the mechanics of reading to be able to discriminate among books. Yet we wanted direct, objective, children's experience as a base rather than teacher judgment. The method finally evolved is briefly described in the following paragraphs.[2]

A number of experienced primary teachers were asked to submit lists of easy and hard first-, second-, and third-grade books with which they had had experience within two years. The books on

[1] Edward L. Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921.

[2] For a full account of this method and all other matters involved in the derivation of the formula, and for a comparison of its effectiveness with formulas suggested by others, the reader is referred to the monograph entitled *Grading Children's Books* by the present writers, to be published by the National Conference on Research in Elementary School English.

which there was the best agreement were tentatively selected as typical books for trial with the children. Primary children were then tested with the Gray Standardized Oral Reading Paragraphs and the Gates Primary Silent Reading Tests. Children whose scores on both tests fell nearest to the median of their half-grade were selected as subjects on whom to test the books. Each of these test children read measured sample selections from the typical books. Their time and errors were recorded. The median time and error score for each half-grade was thereby found.

By having children of a half-grade higher and a half-grade lower read the same books, we found the difference in time and error scores from half-grade to half-grade and could thereby determine whether books were really a half-grade apart in difficulty. With this information we were able to narrow our "typical books" down further. Any book which varied in difficulty (as measured by children's time and error scores) by more than a quarter of a grade from the median of all the "typical books" of a given half-grade was discarded—obviously it was closer to the half-grade higher or lower than that to which it had been assigned. Many children and many more books had to be tested before we finally obtained a group of strictly typical books for each half-grade—books which were a half-grade apart in difficulty as shown by the reading time and errors of children typical for their grade in terms of standardized reading tests. These books were also, of course, among those selected as typical for the half-grade by skilful and experienced teachers. They formed our "Basic Primary List."

The books in the "Basic Primary List" were analyzed in much the same way as were those in the original *Winnetka Graded Book List* except that we confined ourselves to a study of those elements which had previously shown helpful relationship to grading. We also restudied the books included in the *Winnetka Graded Book List*, particularly from the standpoint of "uncommon words," trying to see whether the best correlations were obtained by counting as "uncommon," words which were not included in Thorndike's commonest 10,000 (as in our original formula), or words which were not among the 5,000 or 1,500 or 1,000 or 500 commonest words.

It is not necessary here to explain in detail how we finally de-

termined the best combination of elements for the making of the formula. Suffice it to say that after many trials and much study we found a combination which gave us a high correlation (.86) with grades all the way from the first to the ninth, which corrected the skewing of the *Winnetka Graded Book List*, and which was simpler than the earlier formula and predicted with satisfactory accuracy the degree of reading ability needed by children to read a given book with pleasure. The probable error of estimate was 0.8 of a grade—as close as could be desired or warranted.

The three elements that go into this new formula are simple:

1. In a thousand words, from a systematic sampling of the book, how many different words are there?

2. Of this same thousand words, how many are not among the 1,500 commonest in the English language?

3. Out of seventy-five sentences, sampled systematically, how many are neither complex nor compound?

These are combined in a regression formula as follows:

Number of different words in 1,000 multiplied by .00255,
Plus number of different uncommon words in 1,000 multiplied by .0458,
Plus a constant: 1.294,
Minus number of simple sentences in 75 multiplied by .0307,
Yields the grade of reading ability necessary for satisfying reading of the book.

Perhaps this formula will be a little more intelligible if it is applied to a book: *Tom Sawyer*, for example:

Number of different words in 1,000	$= 373 \times .00255 =$	0.951
Plus: Number of different uncommon words in 1,000	$= 117 \times .0458 =$	5.359
Plus: Constant		1.294
		7.604
Minus: Number of simple sentences in 75	$= 18 \times .0307 =$	.553
		7.051

Tom Sawyer can be easily read, therefore, by a child with a reading ability of grade 7.1. Practically, this figure means that the book is suitable, as far as difficulty is concerned, for children of seventh-grade ability or higher.

It will be noticed that the two major differences between this and the earlier formula are that this omits the preposition count and that it uses as a criterion for the commonness of words the 1,500 commonest words in the English language instead of 10,000. The preposition count was omitted for simplification and ease in applying the formula and, as the formula finally worked out, no material

FIG. 1.—Segment of the word count chart (greatly reduced) of the Winnetka Chart for Determining Grade Placement of Children's Books.

difference in accuracy resulted. The change to the standard of 1,500 words, instead of 10,000, for commonness of words doubtless resulted from our including primary books; their words must be much more simple than those of the upper grades. The other differences are found merely in the constants by which the different factors are multiplied. These were derived by the usual regression-equation technique and take account of the influence that each factor has on the grading of the book.

In order that the application of this formula might be made as easy as possible, a chart was devised, patterned somewhat after the

Lewerenz chart.[1] Two segments of the Winnetka chart[2] are reproduced in Figures 1 and 2 in greatly reduced type. The chart itself is 21 by 28 inches in size. On one side it contains the 1,500 commonest words in the English language, alphabetically arranged and with space after each for tallying the number of times it occurs. On the right-hand side of the same page, under letters of the alphabet, are blanks in which can be written the "uncommon" words found in a thousand-word sampling and a space to tally the frequency of oc-

DIRECTIONS FOR GRADING A CHILDREN'S BOOK

To determine the degree of reading ability a child must have to read a given book it is necessary (I) to select 1000 sample words scattered through the book; (II) to tabulate these words on the other side of this sheet; (III) to find how many of these words are different from each other (called "Number of different words"); (IV) to find how many of these words are not included in the 1500 commonest words in the English language (called "Number of uncommon words"); (V) to select 75 sample sentences scattered through the book; (VI) to tabulate these sentences as simple or not simple; and (VII) to combine these results in a formula. The outcome is the school grade to which a child's reading score on a standard test should correspond if he is to read the book easily and with interest.

Detailed directions for each of these seven steps follow:

Step I - Selecting the 1000 sample words.

1. Find the number of pages in the book, omitting preliminary pages (title page, preface, etc); pages containing pictures only; and pages containing less than one complete sentence of prose. Record number in space provided in upper right hand corner of this chart.

FIG. 2.—Segment of reverse of the Winnetka Chart for Determining Grade Placement of Children's Books.

currence of each of these. Below this list is a place to enter the number of different uncommon words and the number of different words, both of which are needed in the formula.

On the other side of the chart are detailed directions for the tallying of the words, telling what to do about derived forms and so on; detailed directions for selecting the sample words and sentences; detailed directions for recognizing simple sentences; etc. There is also space in which to record, for the seventy-five sample sentences, whether each is simple or not simple in accordance with the definition given on the chart.

[1] Alfred S. Lewerenz, Vocabulary Grade Placement Formula: Word Tabulation Sheet. Los Angeles, California: Educational Research and Guidance Section, Los Angeles City School District, 1931.

[2] Winnetka Chart for Determining Grade Placement of Children's Books. Winnetka, Illinois: Research Department, Winnetka Public Schools.

Blanks for copying in the totals of each of these elements, combined with the constant and the formula, are also provided on this same chart. The chart makes it possible for any person of ordinary intelligence to analyze any book and determine its grade placement. For a novice the job is a long one. Four or five hours would probably be required for a person's first analysis of a book. As one becomes familiar with the chart, however, and does not have to refer constantly to the directions, the time needed diminishes to about two and a half or three hours. The Research Department of the Winnetka Public Schools has set up a book-analyzing service for schools, authors, and publishers and will analyze any book at cost (about $1.50). Persons who are going to have only a small number of books analyzed will probably find it more economical to avail themselves of this grading service. Those who are going to do a great deal of grading might well learn to apply the technique themselves.

After this formula had been derived and had been found, by application to books of known difficulty, to have satisfactory validity, we asked the American Library Association to appoint a committee of expert children's librarians to work with us in picking out the best available books for children so that these might be graded by the formula. A foundation grant was secured to take care of the expense of the grading and the detailed editing. Mary S. Wilkinson, director of work with children in the Enoch Pratt Free Library of Baltimore, Maryland, was appointed chairman of the committee. Serving with her were Nora Beust, assistant professor of children's literature in the School of Library Science, University of North Carolina; Bertha Hatch, librarian for the School of Education, Western Reserve University, Cleveland, Ohio; Louise Singley, director of work with children in the public library at Kalamazoo, Michigan; and Elizabeth Riddell White, director of the Department of Libraries of the Long Beach City Schools, Long Beach, California. Miss Helen Martin, of the School of Library Science, Western Reserve University, Cleveland, Ohio, was an original member of the committee. Her work in Europe made necessary her resignation. Co-operating with this committee were twenty other well-known and competent librarians, who served as a subcommittee to check the selections of the main committee and to annotate the books.

Each of the five members of the committee was requested, from her extensive experience with books and with children, to pick out those books found to be most interesting and most suitable to children's reading from the standpoint both of content and of literary quality.

The method used in selecting and compiling the books is described as follows by the chairman of the committee, Mary S. Wilkinson:

Each member of this special committee compiled, independently, a list of approximately five hundred titles. These were combined and the results, showing considerable variability, were submitted to the committee. Discrepancies and disagreements were corrected, and the whole began to take shape in the desired form—namely, three groups showing first, second, and third choices for libraries of 500 (Group One), 1,000 (Group Two), or 1,500 (Group Three) titles, respectively.

Not satisfied even then that serious omissions had not been made, a supplementary committee of twenty children's librarians, responsible for annotating the titles, was asked to check the list as a whole. Improvements were suggested and adopted. . . . .

In selecting titles the committee has tried to bear in mind that the books are to provide recreational reading rather than supplementary school material, hence many useful textbooks have not been included. They also had to consider that the books were planned for children *to read to themselves* between first and eighth grades. With the limits imposed by the length of the list, it has been deemed unnecessary to include more of the work of any writer, no matter how good, than will serve to introduce him adequately. Certainly some of the decisions as to inclusions and grouping have been arbitrarily made, but it is hoped that in the final analysis the selection will justify the effort and the faith that have gone into its making.

In recommending editions, the committee put three questions to themselves:

"If price were not a factor, which edition should I choose first?

"Which second?

"If limited in my funds, which edition should I buy?"

The arrangement of the list follows to a large extent the recommendations made by Miss Helen Martin based on a questionnaire study in which Miss Martin asked a number of library people if they felt the need for such a list and, if so, how they would like it arranged.

The author and title entries follow the *United States Catalog*. Miss Rosette Reese, librarian of the Skokie School, Winnetka, Illinois, was responsible for this part of the work.[1]

[1] Mary S. Wilkinson, Vivian Weedon, and Carleton Washburne, *The Right Book for the Right Child*, pp. xii–xiii. New York: John Day Co., 1933.

To these carefully selected books the Research Department of the Winnetka Public Schools applied the formula.[1] The result was a fully indexed volume of 357 pages, usable by teachers in selecting books for their libraries or in recommending books to individual children; usable by librarians; and usable by parents, both in recommending books for their children to borrow from the library and in selecting books to buy for the children's personal libraries.

Such a book list, however, rapidly becomes out of date. A wealth of new books is coming on the market every year. It has been the intention of the authors and the publishers to keep the book list fairly well abreast of the times. Consequently a supplement of 144 titles was published in 1936. These titles would presumably have been included had they been available at the time that the original book list was compiled. It is hoped that a similar supplement will be issued two or three years hence or that the entire book list will be revised to include books published in 1937, 1938, and 1939. Of course, for the bulk of the books such a list is never out of date. *Tom Sawyer*, *Little Women*, *Heidi*, *Treasure Island*, and hundreds of others are as popular today as they ever were, if not more so.

Through this combination of selecting books on the basis of the wide experience of expert children's librarians and grading them on the basis of careful statistical research, it is hoped to keep available for parents, teachers, and librarians a list of books known to be suitable to children at various levels of reading ability. Through devising the formula and publishing the chart for application of the formula, we have tried (1) to make it possible for writers and publishers to check the difficulty of their manuscripts so that they can fit their works to the ability of the children whom they wish to reach and (2) to make it possible for schools to evaluate the difficulty of books that they contemplate using.

Children cannot be expected to learn from books which are so written that the mechanical difficulty of reading them occupies the center of the children's attention. It is only by giving children plenty of reading at their own level of ability that fluency and a real love of reading can be developed.

[1] The formula as given earlier in this article had not yet reached its final form when the books were graded. The constants used varied slightly from those given in this article. The final formula as given here was used in grading the books in the 1936 supplement to *The Right Book for the Right Child*.

GOODBYE LAISSEZ FAIRE IN EDUCATION

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There is no need for apology or alarm if the title above seems as appropriate for a popular anthem as for a serious article. Obviously it has promising possibilities for either purpose. It is chosen here because it accurately suggests a theme that has pursued the writer persistently in recent years, floating into his mind and out like the haunting lines of a familiar refrain. It represents the mental residue from many discussions, with students and others, of a fundamental problem, after much of the surplus verbiage has been cleared away. The problem is precipitated by the doctrine of the radical wing of the "progressive" group in education. It will be discussed in language not unduly burdened with the weight of polysyllables.

The desirable school squarely faces the problem of discipline because it recognizes the necessity of some limitation of personal freedom or interest. He who believes in an environment not of the individual's creation, in a truly external manifold of independent entities in relation with which the personality must function, keeps steadily in the forefront of his thinking two fundamental considerations: the complex entity known as the individual personality and the vast organization of objects constituting its environment. The environment becomes the source of many demands on the individual, of many limitations of the possibility of action. By its very nature it facilitates certain types of reaction and inhibits others. What the personality can do is determined in part by its own purposes and in part by the manner in which the surrounding world concurs. To declare in accents amorous, "I want to marry you," is a necessary preliminary to matrimony. To obtain an acceptance is quite a necessary additional detail.

The point of the preceding statement is set forth with singular clearness by William Lyon Phelps in the following paragraph.

One of the best Christmas presents the world ever received was Isaac Newton, born Christmas Day, 1642. He formulated the law of gravitation, a law which does not make anything happen but which describes how things do happen. *Every body attracts every other body by the product of the weight and inversely as the square of the distance.* Why? Nobody knows. Why the square of the distance? Nobody knows. But such are the facts, and all the dwellers on the earth do well to accommodate their lives to this part of the Scheme of Things.

It is perhaps strange, in these days of self-expression, that someone does not announce that he does not intend to obey the law of gravitation; and in order to demonstrate his independence, he will at a certain advertised moment jump off the top of the Empire State Building. The greatest skeptic and the greatest believer in self-expression know what would happen: one more fool would be eliminated, and the law of gravitation, the Scheme of Things, would remain unaffected.[1]

It is easy to see, too, that the controversy in regard to incidentalism as opposed to guidance raises the same general question. Incidentalism is a procedure in accordance with which educational values are expected to be realized by the pupil in the natural pursuit of his immediate interests. Guidance represents a healthy mistrust of the dependability of such interests. Educational guidance is supplied by a teacher, but, if the teacher is properly qualified, the guidance is not an arbitrary matter. What is its basis? Broadly, its basis is the cultural tradition—patterns of achievement based on those accomplishments of human personality that have proved of most worth, the most precious products of civilized life, our best institutional inheritance. This cultural tradition, with its knowledges and skills, its customs and laws, its manners and conventions, its attitudes and appreciations, represents the best solutions up to date of the typical problems confronting humanity. The teacher properly equipped for the guidance function is supplied with these solutions as she watches the child confronting a situation in wonder, puzzlement, or dismay. She even manages purposely to put the child in the presence of the problematic. She permits her charge to solve the problem if he can, but she does not tarry until an ordinary or even a brilliant youngster rediscovers the law of gravitation or the binomial theorem. She knows too well how long men stolidly waited in darkness for Newton, and she suspects that the pupils before her

[1] William Lyon Phelps, "The Scheme of Things," *Good Housekeeping*, CIII (December, 1936), 39.

are probably not reincarnations of that distinguished gentleman. She recognizes that what the race was years in achieving can often be acquired by the properly directed pupil in a few minutes, hours, or days, and so acquired that the learner lives thenceforth at the loftier intellectual level established by a predecessor who first solved the problem for humanity. She does not, however, deny a pupil the thrill of personal discovery where it is possible and practicable, the opportunity to learn the way a thinker thinks.

It should now be obvious that the facts and truths of studies, which constitute the central element in the social inheritance referred to, have their origin in the content of human experience. They are selections of the thought-process; they are abstractions and generalizations from the greater fulness of the perceptual offering; they are items of content and their interrelations. This origin being admitted, another question calls insistently for an answer: What is the source of the perceptual offering? A consistent Deweyism answers: The offering is produced by the thought-process; it is manufactured by the mind; it is the mysterious outcome of intellectual creativity. Expressed in the language of a well-known literary dreamer, "It is we who make it; and when there are no longer any men there will no longer be any universe."[1] This theory, however, is denied by realist and scientist alike, and is contradicted by the intuitions of common sense. For scientist, realist, and more common mortals, the material of knowledge is a gift, a presentation, if you will, of an external and pre-existent world. Ideas are "projects" of the mind of man, but not so the existents to which they intentionally refer. Transcending the experience of any given moment is an external world, says the realist, elements of which enter and leave this experience, supplying the original content of mental life. If the meaning of an idea conforms with existents *found* in the perceptual process, the idea is said to have the quality of truth. The classics, about which Hutchins is so eloquent, are repositories of such tested insights. The curriculum of the schools represents an attempt to select the portions of this great tradition most valuable for the guidance of life-activities.

[1] Anatole France, "The Chief Influences of My Career," *Forum*, XCV (March, 1936), 146.

When the elements of this tradition are organized in some logical manner, are systematically assembled according to some principle of coherence, the result is a subject of study. All subjects, I have said elsewhere,[1] are admittedly abstractions. The best headway in thinking is not made by looking at things en masse. True, that is the way the study of any new topic is begun, but scholars have progressed by concentrating now on the quantitative relations of things, now on the relations which exist among the atoms of different elements, now on the relations which the celestial bodies maintain one to another. They have pursued the method of systematic analysis. Man has come to his present intellectual estate by studying the world now mathematically, now chemically, now astronomically. Moreover, if the route of discovery blazes the route of instruction, the pupil must sooner or later immerse himself in the important subjects, those coherent compilations of related material dealing with special aspects of the world. The educator should, however, avoid the mistake of expecting the last steps in the organization of adult thought to be the first for the child. He should just as carefully avoid the mistake of permitting the child, for want of defensible objectives, to dissipate his energy in a sand pile. Properly selected problems and projects will have a place in mediating between the child's present experience and the more mature experience represented in the generalizations of subjects.

The project as an act of purposing on the part of the pupil fits into this picture perfectly. In order of development, the problem, in everyday experience and in the process of learning, leads the way. Then comes ideation with its attribution of possible "what's" to the problematic "that." Purposive action is nothing more than the identification of the personality with one of the ideas or plans of action "projected" in the process of thought. It is a selection or an adoption from several alternatives. Thought, of course, is nothing additional to all this; it is simply a name for the idea formation described. The correctness or the incorrectness of the idea is determined by conformity with its object, and thus piecemeal is truth evolved. The central business in intellectual education is to direct

[1] Frederick S. Breed, *Classroom Organization and Management*, p. 248. Yonkers-on-Hudson, New York: World Book Co., 1933.

the activities of the learner so that he will come into mental possession of the important elements of the truth tradition, the most valuable subject matter available; that he will be able to use the elements of this tradition as means to a more abundant life; and that he will have had enough practice in the technique of thinking to become a problem-solver himself. Through activity the pupil both acquires and applies ideas. The method of acquisition will differ according to brilliancy of mind. Some individuals will accept the discoveries of others; some will make discoveries of their own. Thus the knowledge emphasized, the subject matter regarded as important, the content of an acceptable curriculum, will consist primarily of ideas verified in the process of human intellection, a process in which, as was earlier suggested, man proposes but nature disposes.

When a personality proposes, plans, or projects an activity in the furtherance of an interest, it formulates an idea that is subject to the approval of the world without. Education of the proper sort reduces the hazards of response to the problematic situations of life by providing ideas, conceptions, that have been tried by others and have not been found wanting. Shall the aim be to equip the next generation in such a way that it can avoid the recurrent pitfalls of experience or to teach in such a way that humanity is doomed to repeat the errors of previous generations endlessly? The philosophy of the radical educator is deceptive and dangerous, for it spreads the propaganda that salvation lies within. Salvation also lies without. It comes when prayers are answered.

Skepticism is said to be a mark of intelligence, but, carried to excess, it is a mark of feeble cerebration. To know is to believe, and to believe involves a general hazard, truly. All beliefs are not equally hazardous, however. Some, on the contrary, have a high degree of certainty. The outer world offers confirmation with regularity when action is guided by the belief that oxygen supports combustion, that hydrogen is an inflammable gas, that zinc dissolves in sulphuric acid, that chlorine is heavier than air, and that a small dose of potassium cyanide can reduce the brain of the wildest skeptic to a state of numbness never previously approached. Thousands of scientific beliefs, known currently as truths, are doubted at a terrible risk. Unfortunately these truths are too largely still in the fields of physical

and biological science, while social science languishes in much uncertainty. Political and economic prescriptions doubtless hedge our lives about with much unreason. God is still sadly misinterpreted by hosts of ardent self-appointed spokesmen, and all the ways of the tribe, from Washington to Roosevelt, can hardly be accepted with the certainty of divine inspiration. This is not to say, however, that the relative theory of truth and the theory of anarchy are identical twins, even if certain intellectuals lean dangerously toward anarchic chaos in fear of clogging the springs of human spontaneity. The objective relativist is not moving in the direction of chaos but in the direction of progressive organization. That which bears the brand of truth today may relinquish it tomorrow, but until tomorrow it must serve as the standard of belief. It will therefore serve as material for the curriculum of the schools and the legislation of the state. It will be taught and used for precisely what it is: the best idea up to date.

In the main corridor of Blaine Hall at the University of Chicago there is a bronze bust of Colonel Francis W. Parker, under which is graven the fitting legend, "True education frees the human spirit." Some years ago a graduate student, making his uncertain way into the School of Education, glanced at the legend, missed the connection with the life of Parker, and read it seriously: "True education freezes the human spirit." *Free* and *freeze:* two hostile aims stated with exquisite brevity. At one extreme, skepticism and chaos; at the other, dogmatism and organization; between them, the truly liberal view, the middle-of-the road position. Liberalism escapes the paralysis of skepticism by taking action according to the evidence, modifying action as better evidence is disclosed. It stands for something definitely but not necessarily indefinitely. It believes in ideals, objectives. It avoids dogmatism like a dread affliction of the spirit. Its purpose in education is not to make disciples but to make discoverers. In sum, it represents a philosophy of education and of life that is nothing more intricate than an extension of the scientific attitude and method.

It is not presumed, however, that the more radically inclined will look on this doctrine with composure. Building consistently on the theory of creativity but outdoing Dewey in their educational em-

phasis, they magnify the sanctity and power of personality to such an extent that the restrictions of the external world, social and physical, seem dangerously ignored. "If man is the creator of his world, who shall stay his hand?" they ask, with a logic that can be answered only by impugning the fundamental assumptions on which they build and turning toward the realistic intuitions of common sense. The realistic liberal as consistently casts the gravest doubt on this notion of the supremacy of man. He regards it as an egregious error of emphasis, a gross exaggeration. He makes of personality less a dictator of its destiny, more a democratic spirit that discovers its way of life in co-operation with external "forces." He looks on the educational policy of the radical as a dangerous invitation to indulgence, as founded on nothing more substantial than the flattery of human hopes. Educationally, politically, and morally, he regards this policy as an invitation to disaster. It represents, he believes, an inadequate sense of fact, a false conception of freedom, and an irrational abrogation of discipline. When still a young man, William James, writing to his friend Henry Bowditch, said significantly: ". . . . and however erring men's ideas may be, so long as they admit the existence of *discipline* in life, of something external really existing, which it is the duty of a man to bring his will into harmony with, there is hope for him, and you feel secure in his presence."[1]

The popularity of discipline has measurably declined since the early days of William James, for he labored in the wake of a Puritan tradition still strong and influential. Nevertheless the "whoopee" era in American schools and social life is drawing to a close. The period of educational license, of flaming youth and rabid individualism, is being terminated with a vengeance by the American masses. They have tasted the fruits of this philosophy and have found them intolerably unpalatable. Speak of this trend as the recrudescence of Puritanism, if you must, and seek to damn it with a designation that suffers from the dross still mingled with the gold. Nevertheless it is the lasting essence of Puritanism that emerges as one of the most significant developments of our time. The old world, staggering from

[1] Ralph Barton Perry, *The Thought and Character of William James*, I, 296. Boston: Little, Brown & Co., 1935.

its recent debauch, now rubs its eyes as it painfully recovers in the cold, gray dawn of the morning after and promises penitently to take its liquor hereafter like a gentleman.

The seekers after perfect freedom are, of course, visionary and deluded folks. Says Bertrand Russell:

> Freedom, in education as in other things, must be a matter of degree. Some freedoms cannot be tolerated. I met a lady once who maintained that no child should ever be forbidden to do anything, because a child ought to develop its nature from within. "How if its nature leads it to swallow pins?" I asked; but I regret to say the answer was mere vituperation. And yet every child, left to itself, will sooner or later swallow pins, or drink poison out of medicine bottles, or fall out of an upper window, or otherwise bring itself to a bad end. At a slightly later age, boys, when they have the opportunity, will go unwashed, overeat, smoke till they are sick, catch chills from sitting in wet feet, and so on. . . . . Therefore one who advocates freedom in education cannot mean that children should do exactly as they please all day long. An element of discipline and authority must exist; the question is as to the amount of it, and the way in which it is to be exercised.[1]

This, I am constrained to think, is the counsel of wisdom.

[1] Bertrand Russell, *Sceptical Essays*, p. 188. New York: W. W. Norton & Co., Inc., 1928.

THE ARITHMETIC VOCABULARY OF THE ELEMENTARY-SCHOOL TEACHER

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An obvious result of the recognized importance of vocabulary in elementary arithmetic is the greater need on the part of classroom teachers for a definite consciousness and understanding of the nature and the basic content of the vocabulary used. Furthermore, teachers in training need to be sensitized to the influence of vocabulary in learning. It is with this aspect of the problem that the writer has been concerned for some time.

In order to obtain objective information regarding the nature and the extent of the arithmetic vocabulary possessed by students preparing to teach elementary arithmetic and to impress upon them the significance of vocabulary in teaching that subject, the writer has formulated a survey test entitled "An Arithmetic Vocabulary Test for Teachers." This test, which forms the basis for the study herein described, consists of 10 parts, including 215 objective-type items giving a total point score of 150. It should be understood that the items employed in the test are not to be considered in any way as constituting the accepted vocabulary to be mastered or emphasized. They merely represent a cross-section of the arithmetic vocabulary found in the textbooks and in educational literature dealing with the teaching of arithmetic.

The nature of the items in each part of the test is briefly described below:

Part I. To select from a series the proper terms which are associated with the numbers used in examples of the various operations with whole numbers and fractions. Some of the terms to be properly matched are "subtrahend," "addend," "multiplier," "dividend."

Part II. To write, in Hindu-Arabic and Roman numerals, large numbers expressed in words.

Part III. To write, in words, numbers given in Hindu-Arabic and Roman numerals.

Part IV. To give examples of various kinds of numbers, such as mixed numbers, proper fractions, prime numbers, denominate numbers.

Part V. To give examples which show that the student knows such terms as "invert," "reduce," "reciprocal," "average," "common denominator."

Part VI. To give simple definitions of "area," "add," "quotient," etc.

Part VII. To associate a wide variety of names of units of measure with the systems of measure in which the names denote units.

Part VIII. To indicate the meanings of terms used in commercial activities, for example, "policy," "discount," "premium."

Part IX. To write the words and phrases for which a wide variety of commonly used arithmetic signs, symbols, and abbreviations stand.

Part X. To indicate the meaning of common terms used in mensuration.

Three principal sources were drawn on for the content of the test, namely, some of the current textbooks in the teaching of arithmetic,[1] *The Vocabulary of Arithmetic* by Buswell and John,[2] and "The Fundamental Vocabulary of Elementary-School Arithmetic" by Pressey and Elam.[3]

As a practical basis for determining satisfactory achievement on the part of the students, the co-operation of ninety-two teachers of arithmetic in Grades I–VI, inclusive, in two progressive school systems was obtained. Table 1 gives data on the scores made by the teachers in these school systems. An interesting observation to be made from the data in Table 1 is the lack of significant difference in the scores obtained from the teachers of the various grades. It is obvious, however, that the number of cases for each grade is too small to warrant conclusions. The twenty-five unclassified cases include those teachers who failed to indicate the grade which they

[1] *a*) Paul Klapper, *The Teaching of Arithmetic*. New York: D. Appleton–Century Co., Inc., 1934.

b) Robert Lee Morton, *Teaching Arithmetic in the Intermediate Grades*. New York: Silver, Burdett & Co., 1927.

c) Robert Lee Morton, *Teaching Arithmetic in the Primary Grades*. New York: Silver, Burdett & Co., 1927.

d) William F. Roantree and Mary S. Taylor, *An Arithmetic for Teachers*. New York: Macmillan Co., 1932 (revised).

[2] G. T. Buswell and Lenore John, *The Vocabulary of Arithmetic*. Supplementary Educational Monographs, No. 38. Chicago: Department of Education, University of Chicago, 1931.

[3] L. C. Pressey and M. K. Elam, "The Fundamental Vocabulary of Elementary-School Arithmetic," *Elementary School Journal*, XXXIII (September, 1932), 46–50.

were teaching. The small difference between the median and the mean for all the ninety-two cases indicates that the distribution of the scores is nearly normal.

TABLE 1

RESULTS FROM ADMINISTRATION OF "AN ARITHMETIC VOCABULARY TEST FOR TEACHERS" TO NINETY-TWO ELEMENTARY-SCHOOL TEACHERS

Grade Taught	Number of Teachers	Mean Score	Median Score	Range
I	10	121.9	122.5	117– 30
II	6	110.6	108.5	98–129
III	9	112.9	113.0	90–126
IV	12	116.0	116.0	104– 31
V	11	121.1	123.0	110– 32
VI	19	124.0	124.0	108– 39
All grades, including twenty-five unclassified cases	92	119.2	120.0*	90–139

* The probable error of the median is .9340.

TABLE 2

COMPARISON OF PERFORMANCE OF COLLEGE STUDENTS IN ELEMENTARY EDUCATION AND OF CLASSROOM TEACHERS ON "AN ARITHMETIC VOCABULARY TEST FOR TEACHERS"

	Teachers	College Students
Number of cases	92	30
Mean score	119.2	100.5
Median score	120.0	104.3
Range in scores	90–139	60–144
Lower quartile	113.2	89.5
Upper quartile	127.5	114.5

The student scores reported here were obtained from thirty students enrolled in classes in the teaching of elementary arithmetic offered in a junior college and a university school of education. Table 2 presents a comparison of the results of the students'

TABLE 3

ITEMS IN "AN ARITHMETIC VOCABULARY TEST FOR TEACHERS" ON WHICH 25 PER CENT OR MORE OF TEACHERS OR COLLEGE STUDENTS FAILED

ITEM	PERCENTAGE FAILING	
	Teachers	College Students
Part I (15).* Indicating meaning of terms:		
1. Minuend	16	50
2. Subtrahend	16	40
3. Dividend	11	33
4. Numerator	1	26
5. Radicand	28	30
Part II (15):		
a) Writing in Hindu-Arabic numerals:		
1. Nineteen billion, eight hundred million, fifty	15	37
2. One-half million	23	43
3. Four ten-thousandths	10	40
b) Writing in Roman numerals:		
4. Six hundred fifty-seven	28	70
5. Eighty-six	25	57
6. Seventeen hundred seventy-six	37	87
7. One hundred seven	11	30
Part III (10). Writing in words:		
1. 101	4	37
2. 36.008	70	60
3. DCIX	27	67
4. MCDXCII	85	77
5. 1,005,120,300	12	27
6. LXIX	74	73
7. XCCXXVI	95	97
8. 0.16 2/3	77	53
9. 2,427	72	67
Part IV (15). Giving examples of:		
1. Proper fraction	3	27
2. Improper fraction	8	30
3. Circulating decimal fraction	97	97
4. Mixed decimal	37	57
5. Mixed number	7	37
6. Repeating decimal fraction	73	73
7. Complex fraction	50	90
8. Abstract number	36	57
9. Prime number	54	73
10. Concrete number	53	93
11. Integer	22	53
12. Unit fraction	87	93
13. Compound denominate number	64	97
Part V (10). Indicating meaning of:		
1. Reciprocal	60	90
2. Median	43	67
3. Average	39	33
4. An exponent, for example, 10^4	39	40

* The figures in parentheses indicate the number of items in each part of the test.

TABLE 3—*Continued*

Item	Percentage Failing	
	Teachers	College Students
Part VI (10). Writing definition of:		
1. Equal	35	27
2. Average	54	57
3. Area	32	60
4. Add	15	30
5. Aliquot	83	100
6. Quotient	5	30
7. Count	32	57
Part VII (40). Recognizing relation between:		
1. *Degree* and measure of angles and arcs	27	33
2. *Gallon* and dry and apothecaries' fluid measure	80	90
3. *Dozen* and the system of counting	7	27
4. *Minute* and the measure of angles and arcs	98	97
5. *Square yard* and the measure of area	23	57
6. *Mill* and the system of United States money	18	33
7. *Section* and the measure of area	20	37
8. *Barrel* and the system of liquid measure	64	60
9. *Gross* and the system of counting	32	67
10. *Pound* and the English system of money	87	80
11. *Meter* and the measure of length	29	47
12. *Gram* and the measure of weight	73	47
13. *Ounce* and apothecaries' fluid measure	100	93
14. *Dram* and apothecaries' liquid measure	30	67
15. *Gill* and liquid measure	34	63
16. *Second* and the measure of angles and arcs	99	90
17. *Quart* and dry measure	72	87
Part VIII (20). Knowing meaning of:		
1. Discount	26	20
2. Premium, as used in insurance	1	27
3. Payer, as used in connection with checks	29	27
4. Bank draft	16	37
5. Sales slip	10	33
6. Interest, as used in connection with bonds	55	63
7. Assets	34	57
Part IX (60). Knowing meaning of:		
1. "÷"	78	63
2. ":"	58	43
3. #16	26	43
4. 16#	48	57
5. per	68	80
6. pr	30	50
7. M	26	73
8. C	29	63
9. com	13	33
10. T	18	43
11. per cent	93	83
12. cwt	15	50
13. Dr	55	70
14. Cr	38	20
15. π	29	33
16. g	93	57
17. £	13	57

TABLE 3—*Continued*

Item	Percentage Failing	
	Teachers	College Students
Part X (20). Knowing meaning of:		
1. Perimeter	12	33
2. Hypotenuse	13	43
3. Area	27	47
4. Dimensions	38	53

performance on the test with the performance of the ninety-two teachers. The data indicate that a marked difference exists between the level of the arithmetic vocabulary of the classroom teacher and that of the student in training.

The specific items in the test on which the percentage of failure among the teachers or students, or both, was 25 or more are given in Table 3. This table shows the nature of the items in arithmetic vocabulary which appeared to be unknown by at least 25 per cent of the teachers or prospective teachers included in the study.

The errors in writing numbers in words consisted principally in using "and" improperly and in failing to use hyphens where they should appear. For example, a number such as 1,127 was written as "one thousand one hundred and twenty seven." An interesting discovery in connection with the test on units of measure was the large number who did not know what a "mill" is.

In the section on defining signs, symbols, and abbreviations, two or three interesting results were obtained. The term "per cent" was defined as "%" by most of those missing it, while the abbreviation "Dr." was said to stand for "doctor." The sign "÷" was missed by a higher percentage of teachers than students and was described as meaning "divide" instead of "divided by."

CONCLUSION

There is a significant difference between the arithmetic vocabularies of teachers as a group and students in elementary education.

There is a definite place for teaching the technical vocabulary of arithmetic to students who intend to teach arithmetic, particularly

(1) items used in connection with the fundamental operations with whole numbers; (2) common and decimal fractions; (3) items connected with denominate numbers and the units of measure; and (4) large numbers, both Hindu-Arabic and Roman.

Both teachers and students show lack of ability to express numbers correctly in words and especially to write numbers in words.

A significant proportion of both teachers and students manifest a lack of understanding of a number of important signs and abbreviations used in arithmetic.

Both students and teachers manifest a need for improvement in ability to define in simple language many of the concepts in arithmetic.

SELECTED REFERENCES ON PUBLIC-SCHOOL ADMINISTRATION. I

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The references herewith presented were selected from material published during the period November 1, 1936, to October 31, 1937. In this article appear titles classified under (1) general administration, (2) state school administration, (3) city school administration, and (4) supervision. Titles classified under (5) teaching staff, (6) school finance, (7) business management, and (8) public relations will be published in the February number of this journal.

GENERAL ADMINISTRATION[1]

1. BRUBACHER, JOHN S. "The Constitutionality of a National System of Education in the United States," *School and Society*, XLVI (October 2, 1937), 417–23.

   Suggests that recent Supreme Court decisions signify sufficient constitutional basis for a national system of education if the conditions denote the need for national activity in education.

2. BRUNNER, EDMUND DES., and LORGE, IRVING. *Rural Trends in Depression Years*. New York: Columbia University Press, 1937. Pp. xvi+388.

   Reports the results of a study of changes in rural social life in the United States between the years 1930 and 1936.

3. BURKE, ARVID J., and ALEXANDER, CARTER. "Guide to the Literature on Public-School Administration," *Elementary School Journal*, XXXVII (June, 1937), 764–78.

   A bibliographical guide to direct students in finding materials in the literature on public-school administration.

4. CHAMBERS, M. M. (Editor). *The Fifth Yearbook of School Law, 1937*. Washington: American Council on Education, 1937. Pp. 144.

   A narrative topical summary of decisions of the higher courts in all states of the United States of America in cases involving school law, as reported during the calendar year 1936.

[1] See also Item 402 in the list of selected references appearing in the September, 1937, number of the *Elementary School Journal*.

5. DEWEY, JOHN. "Democracy and Educational Administration," *School and Society*, XLV (April 3, 1937), 457–62.

The author urges co-operative inquiry and experimentation among teachers in the interests of democratic administration in the schools.

6. EDUCATIONAL POLICIES COMMISSION. *Research Memorandum on Education in the Depression*. Prepared under the Direction of the Committee on Studies in Social Aspects of the Depression. Bulletin No. 28, 1937. New York: Social Science Research Council, 1937. Pp. xii+174.

An attempt to make a critical appraisal of existing conditions in education and to stimulate desirable changes in the purposes, procedures, and organization of education.

7. KUMPF, CARL H., and KUMPF, CECILE LAFOLLETTE. "The Values of Co-operative Administration," *Appraising the Elementary-School Program*, pp. 292–97. Sixteenth Yearbook of the Department of Elementary School Principals. Bulletin of the Department of Elementary School Principals, Vol. XVI, No. 6. Washington: Department of Elementary School Principals of the National Education Association, 1937.

Discusses opportunities for teacher participation in school administration.

8. NEWLON, JESSE H. "The Importance of a Point of View in Educational Administration," *School and Society*, XLV (March 13, 1937), 361–68.

Discusses the essential character of educational administration in a democratic society.

9. OUTLAND, GEORGE E., and MARTIN, CHARLES K., JR. "Transiency and Federal Aid to Education," *School and Society*, XLVI (July 24, 1937), 126–28.

Educational implications of mobility of population urged as an argument for federal aid.

10. SANDERS, WILLIAM J. "The Issue in Educational Administration," *Educational Administration and Supervision*, XXIII (April, 1937), 280–83.

Discusses the issue in educational administration between rigid dictatorial regimentation of teaching and learning and a flexible co-ordination of teachers and pupils in the free exercise of their capacity for growth.

11. *School Organization*. Review of Educational Research, Vol. VII, No. 4. Washington: American Educational Research Association of the National Education Association, 1937. Pp. 357–446.

Presents a synopsis and interpretation of the contributions in the field of school organization from July 1, 1934, to July 1, 1937. The bibliography contains 481 references.

12. STRAYER, GEORGE D. "Building the Profession of School Administration," *School Executive*, LVI (March, 1937), 248–50, 270.

Proposes that the time has arrived to establish requirements for the profession of school administration acceptable by boards of education and by state legislatures.

13. TEAD, ORDWAY. "Democracy in Administration," *Social Frontier*, III (January, 1937), 105–7.

Considers the question of democratic control in school administration. The conclusion is drawn that the educational system will profit by wider representation in the bodies of administrative control.

STATE SCHOOL ADMINISTRATION

14. ALVES, H. F. "Planning New Local School Units," *Nation's Schools*, XIX (January, 1937), 18.

Describes the steps involved in organizing schools and school-attendance areas that shall be more satisfactory than those now commonly found.

15. BELKNAP, BURTON H. "Pupil Transportation in the State of New York," *American School and University*, IX, 516–19. New York: American School Publishing Corp., 1937.

The writer sets up a number of requirements which provide for the safety of the pupils transported and assure economy in operation.

16. BURKE, ARVID J. "State Aid for Reorganization," *Nation's Schools*, XIX (April, 1937), 35–36.

Asserts that state-wide programs of district reorganization must provide state aid for certain types of "extra" costs.

17. CHAMBERS, M. M. "State Centralization Goes On," *Nation's Schools*, XIX (June, 1937), 33–34.

Supports the view that increasing concentration of authority and responsibility in state departments of education is widely welcomed as in harmony with current economic and social changes.

18. DAWSON, HOWARD A. "The Local Unit of School Administration," *American School and University*, IX, 21–25. New York: American School Publishing Corp., 1937.

A descriptive account of the types of local units of school administration. The author outlines a plan of reorganization.

19. HOLLOWAY, HARRY V. "A State Unit of School Administration," *American School and University*, IX, 26–28. New York: American School Publishing Corp., 1937.

Points out the advantages that have accrued from a state unit of school administration in the state of Delaware.

20. JORDAN, FLOYD. "Functions of Divisions of Elementary Education in State Departments of Education," *Elementary School Journal*, XXXVII (January, 1937), 365–68.

Lists and gives frequency of performance of duties of personnel employed in divisions of elementary education in state departments of education.

21. JORDAN, FLOYD. "The Organization of State Departments of Education," *Educational Administration and Supervision*, XXIII (February, 1937), 149–53.

Describes varying features of organization characterizing different state departments.

22. LAMBERT, A. C. "Trends in the Transportation of School Children in the United States," *American School Board Journal*, XCIV (April, 1937), 37, 40.

Historical treatment of school transportation in the United States during the past three decades. Important trends are indicated.

23. OVERN, A. V. "Educational Program of the County," *School Executive*, LVI (December, 1936), 147.

A brief discussion of inequalities of school support in Sargent County, North Dakota. Methods are suggested for reducing the number of schools and improving the program of work offered without increasing the taxes.

24. *Safety in Pupil Transportation.* Research Bulletin of the National Education Association, Vol. XIV, No. 5. Washington: Research Division of the National Education Association, 1936. Pp. 199–238.

An analysis of the regulations and practices of the various states with reference to safety in pupil transportation.

25. STRAYER, GEORGE DRAYTON. "The Relationship between State and Local Administration of Schools," *American School and University*, IX, 18–20. New York: American School Publishing Corp., 1937.

Treats the division of authority in the administration of schools between state and community.

26. WILLIAMS, R. C. *State Responsibility for the Support of Public Schools.* Research Bulletin No. 20. Des Moines, Iowa: State Department of Public Instruction, 1936. Pp. 28.

A study of state aid for public schools in Iowa, with suggestions for improvement of the existing plan.

CITY SCHOOL ADMINISTRATION[1]

27. "Administration of Clerical Service in City School Systems." Educational Research Service, Circular No. 4. Washington: American Association of School Administrators and Research Division of the National Education Association, 1937. Pp. 48.

[1] See also Item 552 (Reavis, Bolmeier, and Stumpf) and Item 553 (Simon) in the list of selected references appearing in the November, 1937, number of the *School Review*.

Deals with the administration of clerical personnel in 71 cities having populations of more than 100,000.

28. AKRIDGE, GARTH H. *Pupil Progress Policies and Practices.* Teachers College Contributions to Education, No. 691. New York: Teachers College, Columbia University, 1937. Pp. viii+76.

This study deals with the cumulative effect of the regularity of pupil progress on the central tendency and the variability in mental age and achievement at a given grade level in the elementary school.

29. ALLEN, CHARLES FORREST; ALEXANDER, THOMAS; and MEANS, HENDREE WINSTON. *Extra-Curricular Activities in the Elementary Schools.* St. Louis, Missouri: Webster Publishing Co., 1937. Pp. x+604.

Sets forth guiding principles for organizing and administering extra-curriculum activities in elementary schools and suggests plans and procedures for introducing programs of activities in schools organized according to the platoon or traditional plan.

30. BOLTON, FREDERICK ELMER; COLE, THOMAS RAYMOND; and JESSUP, JOHN HUNNICUT. *The Beginning Superintendent.* New York: Macmillan Co., 1937. Pp. xxxiv+614.

A treatment of administration for beginning superintendents in small school systems. The topics and problems considered have been selected on the basis of probable helpfulness. The discussion is both explicit and concrete.

31. CHAMBERS, M. M. "School District v. City," *Nation's Schools,* XVIII (November, 1936), 29–30, 34.

A discussion of the legal basis of the relations between the city and the school district.

32. HEFFERNAN, HELEN. "Classification and Promotion Policies in Some City School Systems," *California Journal of Elementary Education,* V (May, 1937), 228–34.

An answer to many inquiries concerning problems of classification and promotion of pupils and the reporting of pupil progress to parents.

33. LOMBARD, ELLEN C. "Parent Education in the City School," *School Life,* XXII (March, 1937), 219.

A brief account of the "well-integrated program" of parent education which is conducted at Binghamton, New York, under the direction of the superintendent of schools and the director of the division of parent education.

34. MCGAUGHY, J. R. *An Evaluation of the Elementary School.* Indianapolis, Indiana: Bobbs-Merrill Co., 1937. Pp. viii+422.

The author of this work presents in detail his philosophy of elementary education, with a discussion of present procedures and practices in the light of his philosophy.

35. NEWLON, JESSE H. "Responsibility of the Superintendent for Professional Leadership," *School Executive*, LVI (March, 1937), 251–52, 275, 278.

Discusses the various types of superintendents and the excellent qualities possessed by a genuine educational leader.

36. OTTO, HENRY J., and HAMRIN, SHIRLEY A. *Co-curricular Activities in Elementary Schools*. New York: D. Appleton–Century Co., Inc., 1937. Pp. xiv+442.

A detailed discussion of the organization and the management of pupil activities which once were thought of as "extra-curricular" but now are more generally regarded as an essential part of the educational program.

37. PFAFF, C. S. "Administrative Set-up of the New Orleans Public Schools," *American School Board Journal*, XCIV (February, 1937), 47.

A brief historical review of the development of administrative control in the public schools of New Orleans.

38. RELLER, THEODORE LEE. "Executive Responsibility in City School Administration," *American School Board Journal*, XCIII (September, 1936), 19–20, 85; (November, 1936), 21–22; (December, 1936), 14, 68.

A historical treatment of the development of multiple and dual executive responsibility in city school administration.

39. "Size, Tenure, and Selection of Boards of Education in Cities above 30,000 in Population." Educational Research Service, Circular No. 6. Washington: American Association of School Administrators and Research Division of the National Education Association, 1937. Pp. 38.

Recent data for 249 city school systems.

40. WRIGHT, FRANK L. "The Superintendent and the Board of Education," *American School Board Journal*, XCV (September, 1937), 19–21.

The author discusses ways and means of improving the relations between the superintendent and the board of education.

SUPERVISION[1]

41. DANIELSON, EVA. "Problems of Supervision Confronting Elementary Principals Today," *California Journal of Elementary Education*, VI (August, 1937), 50–53.

Suggests a supervisory program which will release the creative potentialities of teachers.

42. DODD, M. R. "Introducing the Supervisory Program," *Educational Administration and Supervision*, XXIII (January, 1937), 63–67.

A plea for the exercise of extreme caution and the recognition of the personal element when a supervisory program is introduced.

[1] See also Item 54 (Mackenzie) in the list of selected references appearing in the January, 1938, number of the *School Review*.

43. REEDER, EDWIN H. "Supervision in Modern Schools," *Educational Administration and Supervision*, XXII (December, 1936), 641–52.

Urges the need of new theories of supervision to meet modern demands on the schools.

44. SANTEE, J. F. "Supervision of Smaller School Systems," *American School Board Journal*, XCIII (November, 1936), 23–24.

A philosophy of supervision for smaller school systems is presented, and a number of suggestions which may be helpful to superintendents in smaller communities are offered.

45. TRAINOR, A. WINFIELD. "Growth in Service through Supervision," *New York State Education*, XXIV (February, 1937), 356–57, 400–401.

Points out that it is the function of supervision to set up situations in appropriate form so that, through group co-operation, guidance, and leadership, superintendents, principals, and teachers are helped to understand the significance of new problems, changing methods, and the basic philosophy on which they are founded.

46. WEBER, D. H. "Superintendents and Their Annual Reports on Supervision," *Nebraska Educational Journal*, XVII (February, 1937), 44, 51.

The author discusses the place of supervision in the annual reports of superintendents. He suggests a number of items which should be included in the annual reports at least once during a period of two or three years.

Educational Writings

REVIEWS AND BOOK NOTES

The revised Stanford-Binet tests of intelligence.—The original Stanford Revision of the Binet-Simon Intelligence Scale has been generally accepted as the most valid and reliable means of measuring "intelligence" available for practical use. There has, of course, been extensive criticism of the concept of intelligence as measured by such a composite test, and much research is being carried on, by the method of factor analysis, to determine the composition of ability. Some psychologists—Spearman, for example—identify a general factor, *g*, but hold that this factor is not identical with the ability required to pass a composite intelligence test. Others, such as Thurstone, deny the existence of a general factor and reduce ability to a composite of primary abilities. On the other hand, some psychologists deny that factor analysis is an adequate method of determining the composition of ability.

Whatever may be the outcome of the disputes concerning the nature of ability, it would seem that the practical usefulness of the scales which we call "intelligence tests" justifies the continued employment of these instruments and the refinement of their techniques. It is possible that they may ultimately be replaced by more analytical means of measurement, but the time does not seem near at hand. The long-expected revision of the Stanford-Binet scale,[1] therefore, will be heartily welcomed by educators and psychological clinicians.

The standardization of a mental-age scale is an enormous task, and for this reason few persons have undertaken the work. It is necessary to adjust the difficulty of the tests at each age level in such a way that the mean mental age of each age group agrees with the chronological age and that the variability of intelligence quotients at the successive age levels is equal. When this task has been accomplished, however, the significance of a child's performance is evident from his score on the test. Therein lies the practical advantage of the mental-age scale.

The present revision has corrected certain defects which had become evident in the first scale and has greatly expanded it. The earlier scale was less satisfactory at the earlier and the later ages than at the intermediate ages. The

[1] Lewis M. Terman and Maud A. Merrill, *Measuring Intelligence: A Guide to the Administration of the New Revised Stanford-Binet Tests of Intelligence.* Boston: Houghton Mifflin Co., 1937. Pp. xii+460. $2.25.

present scale yields a better distribution of intelligence quotients at these ages. It is based on a much larger number of cases, particularly at the extreme ages, and the cases were much more carefully selected in order that the various sections of the country and various occupational levels might be represented. The scale is extended to age two at the lower end and is extended at the upper end by the addition of many more adult tests. Tests are supplied for half-years below five years of age, and the gaps at years eleven and thirteen have been filled. The new scale uses a somewhat larger number of non-language tests, but these are chiefly in the lower ages.

In the earlier scale the intelligence quotient was calculated by using the actual chronological age as the divisor up to age sixteen and using age sixteen thereafter. This procedure gave a sudden break at sixteen not justified by any reasonable assumption regarding the rate of mental growth. In the new scale the chronological ages between thirteen and sixteen are corrected so as to reduce the divisor gradually. These features illustrate the refinements which have been made.

An important change in the new scale is the provision of two equal and parallel forms. The two forms are largely different in specific content but very similar in the types of tests that they contain and in the mental processes required. The scale is carefully standardized as to the mean intelligence quotient and the standard deviation of various ages. It is somewhat more uniform in these respects than the old scale. The standard deviation of intelligence quotients is several points larger than on the old scale, and this difference makes the intelligence quotients of the two scales not strictly comparable. This fact should be taken into account in testing the same child by both scales and also in educational or administrative adjustment to intelligence levels. The difference in the latter case, however, would be slight.

The new scale evidently constitutes a marked advance over the old one. In addition to the essential improvements which have been mentioned, the form of the manual has been made more convenient and the instructions for giving and scoring have been made clearer. The scale is still an interview scale, and the scoring in many of the tests is based on a discriminative judgment of the response. The correct use of the scale, therefore, demands careful preparation and training. The general scores determined by competent testers, however, should not vary a great deal. It is the belief of the reviewer that this revision will have a long and productive career comparable to that of the first edition.

FRANK N. FREEMAN

Teaching and learning in the elementary school.—At a time when the problems of learning presented in the elementary-school curriculum are being studied and treated from many viewpoints based on varied philosophical concepts, one welcomes an effort to view learning in terms of child development. In the vol-

ume under review[1] the author has ably co-ordinated the scientific studies and the philosophical treatises that relate to the major problems involved in learning the three R's.

Recent findings in child psychology dealing with learning, motivation, maturation, and individual differences have changed our notions of the organization of curriculum materials during the elementary-school period. These new data have presented further proof of the necessity of organizing learning materials in harmony with the development and the learning ability of the pupil. It is in this connection that Hildreth's approach to the learning of the three R's presents a definite contribution because of the nature of the organization and the application of scientific findings to the problems of learning. The pupil is brought in as the chief element of the learning situation, and his educational growth is interpreted in terms of the elements that have affected him.

In this rather voluminous book the materials are arranged in four sections: (1) a description of the newer program in the skills of reading, spelling, arithmetic, and writing; (2) a discussion of the problem of failure in school achievement; (3) an outline for diagnostic work in the skills; and (4) suggestions for improved instruction in skill techniques. A carefully chosen list of references and recommended readings on the literature of the topic under consideration is presented at the end of each chapter. These lists should add to the usefulness of the volume as a textbook for mature students of educational psychology.

The author has not chosen to deal in generalizations based on carefully defined psychological laws but rather presents an individual approach to the problems of learning, recognizing at all times that the nature of the individual pupil and the learning situation must harmonize if learning is to be efficient and effective. In connection with suggestions for remedial work and improved teaching, the author writes: "Pupil interests should serve to direct the organization of materials. Meaningful applications should be stressed at all times in remedial work and increasingly so with pupils of less than average learning capacity. The reading, spelling, and arithmetic that the children need to acquire should be taught in the way in which it is to function" (p. 656). The materials dealing with learning difficulties are sufficiently specific in their application to the problems of learning the three R's that the student or the teacher should find them of value. However, the individualistic approach rather than the more specific psychological-law approach means that the ideas presented need to be adapted to the nature of the learner and to the learning situation.

Two approaches are made to the major problems. In the first of these, which is critical in nature, an analysis is made of the commonly found practices, and the weaknesses are pointed out. In the second approach especial consideration is given to correcting undesirable procedures. This phase of the discussion presents some very practical ideas concerning the application of psychological facts

[1] Gertrude Hildreth, *Learning the Three R's: A Modern Interpretation*. Minneapolis, Minnesota: Educational Publishers, Inc., 1936. Pp. x+824.

and methods to the everyday problems of the elementary-school child. The philosophical approach to the problems faced by the classroom teacher makes this volume significant for the teacher in training, and the inclusion of scientific materials as a basis for the analyses of the learning problems increases the validity of the generalizations and the discussions presented.

K. C. GARRISON

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Curriculum principles and classroom practice.—A tendency too commonly prevailing in educational teaching and writing is the failure systematically to show how theory may be related to practice. An assumption appears to be inherent in much of the current discussion of educational problems that a considerable amount of information about theory, if supplemented by a certain amount of experience and information concerning modern practice, will somehow result in ability on the part of administrators and teachers to utilize theory effectually in their daily work. That such a result does not generally obtain, however, is only too well attested by the number of school workers whose practice appears virtually untouched by their pre-service or in-service training. Of this group, some sincerely seek the aid of professional theory, others lack confidence in it, and still others appear openly hostile to it. This situation is undoubtedly due in a large measure to a feeling on the part of field workers that much educational theory is too general and has little relation to problems daily met in the school. It is consequently refreshing to encounter a book[1] in which the author recognizes and systematically attacks the problem of enabling teachers to use basic theory in their everyday classroom practice.

The organization of the volume includes an introductory chapter, entitled "Teaching and Curriculum-making," and four parts, bearing the titles: "Basic Principles," "The Course of Instruction," "Method in Teaching," and "Evaluation of Teaching and Curriculum-making." There are, in all, twenty-three chapters. A preface by the author and the editor's introduction precede the main content.

The author's general theory of education is defined as "progressive adjustment." Implied in this theory are five principles of educational method, designated as "need of experiencing," "unity of experiencing," "continuity of experience," "selectivity in experiencing," and "contingency of experiencing." Significant elements of the educative process, such as construction of courses of instruction, teaching methods, and evaluation of instructional procedures, are analyzed and classified into "features of practice." The educational principles enumerated are utilized as standards by which all essential "features of practice may be estimated, judged, or evaluated" (p. 257). Method and curriculum are regarded as inseparable. No general distinction is made between various age

[1] John P. Wynne, *The Teacher and the Curriculum*. New York: Prentice-Hall, Inc., 1937. Pp. xxii+440. $2.50.

and grade levels, the principles and practices being treated as applicable to teaching in elementary school, secondary school, and college.

The chief merits of the book are the author's recognition, as a fundamental weakness in educational programs, of school workers' inability to apply theory adequately in practice and his effective dealing with the one sound method of remedying this weakness. Utilization of principles has, of course, long been advocated by many educational leaders as the soundest means of applying basic theory to practice. Few, however, have sensed how difficult it is for teachers to understand, let alone accomplish, the basing of instructional procedures on educational principles and how necessary it is that they receive direct, systematic instruction regarding the application of principles. Critical workers may question the author's selection of principles, but they may substitute principles of their own choosing and find his plan undiminished in effectiveness. How the teacher may be assisted to plan, to avoid groping with respect to theories, and to evaluate instructional outcomes through the use of principles is consistently illustrated throughout the book.

While modern points of view predominate, lack of emphasis on school activities outside the classroom and on the contributions to the educative process made by home and community constitutes, in the opinion of the reviewer, a major omission. The teacher of today must develop procedures for these important elements of the curriculum. The stress placed exclusively on classroom activities may give the average reader an impression that only traditional informations and skills are to be related to basic principles.

Two conditions prevailing in the educational field indicate the chief spheres of this volume's service. First, greater backgrounds of study, analysis, and experimentation than those currently possessed by the rank and file of school workers will be necessary before they can profit appreciably from undirected use of such a technical treatise. Second, even after workers understand the factors involved in applying principles, a period of guided experience in the field is necessary before they can successfully base everyday procedures on principles. The book should, consequently, attain a particularly wide use in classes in schools of education and teachers' colleges and in programs of in-service training conducted by professionally minded principals.

PAUL R. PIERCE

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A new landmark in the study of human heredity and environment.—Since Sir Francis Galton's work on *Hereditary Genius: An Inquiry into Its Laws and Consequences* nearly seventy years ago, widely varied attempts have been made to appraise the roles of nature and nurture in human development. Most promising of all methods are those involving the study of twins, particularly where experimental procedures are possible through co-twin controls. The investiga-

tion reported in a recent publication[1] employed naturalistic and test-survey methods rather than experiment, but it may be regarded as helping to set the stage for later more crucial research. In fairness to the authors it should be pointed out that more crucial research can hardly be undertaken without vastly greater resources than have yet become available for work in this field.

It is always interesting to observe results from a collaboration of the sciences. In this study are represented the pooled efforts of a biologist, an educational psychologist, and a statistician. Each has contributed indispensably to the total picture, although at points the picture becomes a mosaic with the separate parts not wholly in alignment. Included in the study were three groups of subjects: fifty pairs of identical twins, fifty pairs of fraternal twins (of the same sex), and as many pairs as could be accumulated of identical twins who had been reared from infancy in different homes. In the last group were twenty pairs, including one pair previously reported by H. J. Muller. No comparable collection has ever been made.

Among the twins reared together, of particular interest is the comparison of twin differences in the identical versus the fraternal group. The greater similarity of identical twins is attributable primarily to the fact that they share the same heredity; fraternal twins are genetically no more alike than ordinary brothers and sisters. Other factors complicate the situation to some extent, particularly the tendency, as Jones and Wilson have shown in a California study (Harold E. Jones and Paul T. Wilson, "Reputation Differences in Like-Sex Twins," *Journal of Experimental Education*, I [December, 1932], 86–91), for identical twins to share a more similar environment than do fraternal twins. By the use of statistical methods somewhat too elaborate to be grasped by the average reader, the conclusion is reached that among fraternal twins individual differences in intelligence (in terms of variance) are determined by hereditary factors to an extent of about 75 per cent. In the case of physical measurements this hereditary factor is only slightly greater. In the case of educational age it falls to 64 per cent. For verbal functions, such as vocabulary and spelling, it is markedly higher than for arithmetic. The authors are well aware of the fact that these figures, which carry an appearance of great mathematical precision, must be used with care; they apply to specific functions in a specified genetic sample developing within certain environmental ranges. Results could well be different in another cultural group or in a group of children having a different level or a different degree of variation in any of the traits considered. Moreover, as is pointed out, it is not yet clear to what extent the residual environmental factors may be attributed to the prenatal environment and to what extent they are due to environmental conditions after birth.

With the smaller groups of twins, reared apart, the primary emphasis of

[1] Horatio H. Newman, Frank N. Freeman, and Karl J. Holzinger, *Twins: A Study of Heredity and Environment*. Chicago: University of Chicago Press, 1937. Pp. xvi+370. $4.00.

this report is quite properly on the case studies, which present, with photographs, a fascinating account of the characteristics of identical twins who have developed in different homes. When the intelligence quotients of members of twin pairs are compared, an average difference of about eight points is found, only slightly greater than that of identical twins who have been reared together. On tests of school achievement similarity is not so marked, and in some pairs wide divergences occur. It is unfortunate that in the study of personality traits the methods used involved tests which are now largely discarded, although at the beginning of the study (approximately ten years ago) these were among the best available. In the case of the association tests, a qualitative study of the types of association would probably be of greater interest than the purely quantitative material reported.

In addition to its interest for the general reader, the volume contains much valuable material for those concerned with the technical aspects of twin research. In addition to its value for psychologists, it is from the biological point of view probably the most important study in this field since Gunnar Dahlberg's work in 1926 (*Twin Births and Twins from a Hereditary Point of View*. Stockholm, Sweden: Bokförlags-a.-b. Tidens Tryckeri).

H. E. JONES

UNIVERSITY OF CALIFORNIA

Two textbooks in history for the elementary grades.—The elementary-school supervisor in East Chicago, Indiana, has given us two textbooks[1] which are interesting and worth while. One of these, entitled *Glimpses into the Long Ago*, covers the field often spoken of as the European background to American history. This book is divided into four sections of unequal length, the first two being about half as long as the last two. The first section discusses the Stone Age peoples of Western Europe and the Mediterranean. In the second division the author takes up the ancient civilizations of the Nile and of the Euphrates. The third section is devoted to Greece and Rome, while the last section discusses medieval culture. The book is well written and interesting. The illustrations are so abundant that few pages can be found composed wholly of printed matter. Many of the illustrations cover entire pages, and numerous colored cuts appear. At the end of each chapter appear four or five pages of methodology. This material includes a list of questions which the teacher may ask the pupil or which the pupil may ask himself, a matching problem dealing with the meaning of difficult words or phrases, a short list of library references, and a much longer list of suggested activities.

There is one unusually interesting feature of this book. The author has composed a narrative which describes successfully, though briefly, the culture of the Middle Ages and ancient times with the use of very few proper names of peoples, places, and events. The average textbook probably includes at least

[1] Edna McGuire, *Glimpses into the Long Ago*, pp. 334, $0.96; *A Brave Young Land*, pp. vi+392, $1.08. New York: Macmillan Co., 1937.

ten times as many of these proper names. Since some of these names are drawn from languages very different from ours, the conclusion probably is that this book will be less difficult than other textbooks. It is not impossible that this feature of the book has been carried too far. Thus, in the entire chapter on ancient Egypt only one personality, the god Osiris, is mentioned. The section dealing with the civilizations of the Tigris and Euphrates includes only one name, Hammurabi. In the longer section dealing with the Greeks may be found the name of the Persian king, Xerxes, but there is no reference to any of the Greek leaders who resisted the Persians. The *Iliad* and the *Odyssey* are both mentioned, but the name of Homer is omitted. Zeus, Hera, Apollo, Demeter, Athena, and Dionysus appear. Socrates and Plato are included, but Aristotle is omitted. Both Philip and Alexander, Macedonian kings, are mentioned but not Pericles or Demosthenes. The classroom teacher will probably need, then, to supplement the brief list of personalities in the book with additional names.

At the close of this book is a word list giving the pronunciation of all terms and proper names used which may be difficult. Last of all there is a good index. This publication is, on the whole, a most usable book.

The same author has given us another textbook, *A Brave Young Land*, the contents of which deal with American history. This book, also, is divided into four divisions. The first division deals with conditions in Europe which made possible the discovery and the occupation of the New World, including the journeys of Marco Polo, the efforts to find a new way to the East through Africa, and finally the voyages of Columbus. In addition, the Renaissance and the Protestant Reformation are discussed in some thirty pages. The second division deals with Spanish conquests and explorations, covered in some fifty pages, while about the same amount of space is given to the French, English, and Dutch activities in North America. The third division is the story of the English, Dutch, and Swedish colonies from Jamestown and Plymouth to Georgia. The last division of the book discusses rather briefly the American Revolution. In printing and general construction the two books are much alike. *A Brave Young Land*, however, includes not nearly so many illustrations as does *Glimpses into the Long Ago*. On the whole these illustrations also are less instructive than the cuts used in the first book. Again the effort to simplify the material by referring to few personalities is evident. Again, also, the teacher will need to supplement the persons mentioned in order that the significance of events may be discussed. For example, the Protestant Reformation is discussed with the mention of only one name, Martin Luther. As in the case of the other volume, each chapter closes with three or four pages of methodology. At the end also is a self-pronouncing word list and a satisfactory index.

Here are two very usable textbooks. They are not beyond the comprehension of intermediate-grade children—an important characteristic.

DUDLEY S. BRAINARD

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The teaching of art.—Literature dealing with various phases of the arts has been increasing at a tremendous rate in recent years. During the past decade more than twenty books have been published in the United States covering the specialized field of art education. These books deal with the problems of organization and of administration and with the theory and methods of teaching the subject in the elementary-school, high-school, and college divisions of the curriculum.

A recent publication[1] commands attention as a contribution to the subject of art-teaching in the public school. It is a methods book for teachers in training, which emphasizes educational principles and interprets them in terms of art education. The authors assume that the student will have a fundamental training in art before beginning the study of art education, and for this reason there is no attempt in the book to teach the subject matter. The purpose of the book is "to help the teacher orient herself and her art work in the general scheme of education, so that she may better understand the aims of art education, select pupil experiences more discriminatingly, and adjust her work with greater finesse to other phases of education" (p. v).

The book is divided into the following thirteen unit divisions: I. "Art Education Is Essential"; II. "The Selection of Art Experiences"; III. "The Technique of the Art Lesson"; IV. "Creative Self-expression in Illustration"; V. "Design Activities in the Child-centered Art Class"; VI. "Industrial Art for Social Understandings"; VII. "Color Experiences: Creative and Appreciative"; VIII. "Developing Good Taste in Home and Dress"; IX. "Using Commercial Art"; X. "Great Art of the Past Contributes to Aesthetic Enjoyment in the Present"; XI. "Extra-curricular Activities in Art"; XII. "Scientific Measurement in Art Education"; XIII. "Management of Mechanical Details in the Art Lesson."

Each division contains a set of discussion questions for summarizing the unit and a list of references for parallel reading. The final pages include a well-selected "Topical Bibliography of Art Books," a list of "Sources of Art Supplies and Illustrative Materials," and an index. Some confusion may result from use of the list of firms, supply-houses, and art magazines as a number of those mentioned have gone out of existence or have changed names since the economic depression.

Five major objectives are recognized by the authors as essential in planning the art curriculum: (1) creative self-expression, (2) personal enrichment, (3) social worth, (4) a recreational resource, and (5) vocational training. With these objectives as guides, suggestions are given for developing the art program for each of the twelve grades of the school.

The book presents a great mass of valuable material for the guidance of teachers of art. Perhaps the only criticism of the production is that it is really

[1] Florence Williams Nicholas, Nellie Clare Mawhood, and Mabel B. Trilling, *Art Activities in the Modern School*. New York: Macmillan Co., 1937. Pp. xiv+380. $3.25.

three books in one. It becomes a little bewildering to follow through the immense variety of suggestions for the kindergarten and primary grades, the intermediate grades, the junior high school, and the senior high school for each of the seven different phases of art treated in the book. Art has now reached a status of educational recognition which should warrant the production of separate methods books for each division of the school.

WILLIAM G. WHITFORD

A tested reading program.—It is always gratifying to find guidebooks in a reading series which show evidence of classroom trial. Valuable practical findings are to be expected from an author who has subjected the theory as well as the reading material to actual use.

A series of teachers' guides has appeared for the Unit-Activity Reading Series.[1] The *Guide for the First Year* discusses the changing demands in elementary education, particularly in reading instruction, the materials and procedures in the series from preprimer through the first reader, and techniques for determining and developing reading readiness. A chapter is devoted to almost every topic under which stories are classified in the readers, such as home, city helpers, boats, animals, and birds. These chapters supply concrete descriptions of activities on the topic, detailed lesson plans for each story in the unit, and tests on the new vocabulary. Different procedures are described to meet the needs of schools having activity programs, schools in a transition stage, and schools operating on the conventional basis. The guidebooks for the second and the third years follow the same general plan of organization. Both these volumes include a convenient index.

Among the features worthy of the special emphasis given them in the guidebooks are the following: (1) The reading materials relate to the science and social-studies topics that most frequently form the core of primary curriculums. These topics were determined after careful surveys of recent courses of study in social science recommended by the Bureau of Curriculum Research at Teachers College, Columbia University. Also a few fanciful selections are included in each reader of the series. (2) A scheme of "self-helps" is provided to enable pupils to identify unfamiliar words for themselves. For example, the practice-pads include illustrations of certain words used in the corresponding

[1] Nila Banton Smith, The Unit-Activity Reading Series: *Teachers' Guide for the First Year—"Tom's Trip," "At Home and Away," "In City and Country,"* pp. vi+504, $1.20; *Teachers' Guide for the Second Year—"Round about You,"* pp. 252, $0.88; *Teachers' Guide for the Third Year—"Near and Far,"* pp. 316, $1.00; *"Tom's Trip" in Practice-Pad Form,* pp. 36, $0.36; *Practice-Pad To Be Used with "At Home and Away,"* pp. ii+126, $0.40; *Practice-Pad To Be Used with "In City and Country,"* pp. 96, $0.32; *Practice-Pad To Be Used with "Round about You,"* pp. 96, $0.32; *Practice-Pad To Be Used with "Near and Far,"* pp. 96, $0.32. New York: Silver Burdett Co., 1936 and 1937.

pages in the readers. It is a question, however, whether this device may be used to advantage with such types of pupils as those who fail to use context clues or who have no desire to become independent. (3) Supplementary pamphlets, applying the themes found in the readers, make use of the same vocabularies and thus aid in extending the reading of the individual child. (4) The vocabularies of the readers are carefully controlled, as is shown by the statistical data presented.

It is to be regretted that certain materials in the guidebooks have not been as advantageously arranged as would seem necessary. For example, the material on techniques for determining and developing reading readiness, which is placed at the end of the volume, is likely to be overlooked when it is needed. Again, the suggestions for "unit activities" are likely to be passed over by the teacher who turns first to the part of the guide dealing with the pages of the reader to be used next.

In spite of the present trend toward realistic literature, a basic reading series should probably make more adequate provision than does this series for stories rich in imaginative appeal. However, the guidebooks are richly suggestive of informal reading and of related activities in almost all the school subjects. Since the material has been subjected to classroom trial, almost any teacher will find it easy to follow.

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GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

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EFRON, ALEXANDER. *The Teaching of Physical Sciences in the Secondary Schools of the United States, France, and Soviet Russia.* Teachers College Contributions to Education, No. 725. New York: Teachers College, Columbia University, 1937. Pp. viii+296. $2.35.

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LYON, MARGARET CHARTERS. *The Selection of Books for Adult Study Groups.* Teachers College Contributions to Education, No. 696. New York: Teachers College, Columbia University, 1937. Pp. x+228. $2.35.

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